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SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1954

No. 468

UNITED STATES OF AMERICA, PETITIONER,

vs.

TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT

PETITION FOR CERTIORARI FILED NOVEMBER 26, 1954

CERTIORARI GRANTED JANUARY 10, 1955

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1 In the United States District Court for the Western District of South Carolina

UNITED STATES OF AMERICA

v.

1532.63 ACRES OF LAND, ETC.

(86 F. Supp. 467) OPINION—Filed October 1, 1949.

WYCHE, *Chief Judge*.

Condemnation proceedings have been instituted by the United States in the above stated cases for the acquisition of different tracts of land of the Savannah River Electric Company, and other lands, for the improvement and development of Savannah river at what is known as Clark Hill, where the Government is constructing a large hydro-electric plant as a part of a multiple-purpose program. Similar condemnation proceedings have been instituted in District Courts of the United States in Georgia, for the same purpose.

The Savannah River Electric Company is a corporation of this State organized, under a special Act of the General Assembly, for the specific purpose of constructing a hydro-electric development at Clark Hill and acquiring lands and other property under the power of eminent domain for such purpose. The Government is utilizing the lands taken from Savannah River Electric Company for the identical purpose for which they were acquired by the latter, viz.: a hydro-electric development. The condemnee initially attempted to enjoin the proceedings instituted by the Government, pending the final adjudication of its application before the Federal Power Commission for a license to construct a dam across the Savannah river at Clark Hill. When this application was refused, it withdrew the injunctive proceedings and filed a formal answer in each of

2 the condemnation proceedings, setting forth: the purpose of its incorporation; its acquisition of approximately 40,000 acres of land on each side of Savannah river, including the lands here involved, with all of said lands integrated into a single tract and alleged to be peculiarly adapted to use as the site for a hydro-electric development by reason of location in proximity to and along the river; including the site of the dam now under construction by the Government; the value of the land as a whole based upon its location value including the dam site; that the taking of said land in piecemeal, results in totally destroying the unitary value of the whole for hydro-electric development; that such value is realizable by it "both through the development of said (hydro electric) plant or through the sale of said property at such location

to other parties interested in such development"; that the fair market value of said entire tract of land by reason of its location and proximity to the Savannah river is also based upon the use of the same for agriculture, grazing, and dairying operations, and that the taking thereof in small tracts through separate condemnation proceedings destroys its unitary value for each of the purposes for which it is adapted.

The proceedings are now before me upon the motion of the Government to strike portions of the amended answers of the Savannah River Electric Company upon the following grounds: That the matters set forth therein are, (1) immaterial and irrelevant, conclusions, inferences, or erroneous assumptions of fact; the pleading of evidence or "evidential" facts; (2) an attempt to enlarge the estate and interest in and the quantity of the lands being condemned; (3) the assertion of a claim for just compensation for the alleged taking of lands which are not the subject matter of this proceeding and not involved herein; an endeavor to assert a counterclaim against plaintiff without consent of plaintiff; an attempt to assert a claim for indirect and consequential damages; the assertion of claims for just compensation based upon frustration, or loss of anticipated profits or return on investment; and an attempt to enlist the aid of this Court in controlling the Secretary of the Army in the exercise of discretion in the determination of the necessity for the acquisition of lands and interests therein and in the selection of such lands, which discretion has been conferred exclusively upon the Secretary of the Army by the Congress of the United States; (4) the assertion of a claim for just compensation based upon water power value, or the adaptability of lands herein involved and other lands for hydro-electric power development or the availability of the water in the Savannah river and the power inherent therein; (5) that the relief sought by defendants is contrary to law and beyond the jurisdiction of this Court.

The main question arises from the motion to strike that portion of the answers which seeks to recover compensation for the property taken, upon the basis of its location value, adjacent to, and along the Savannah river, for water power development. No demand is made in the answers for compensation on the basis of frustration or loss of anticipated profits. The allegations as to the feasibility of the project appear to be alleged to establish that the values claimed are in no sense speculative and could be reasonably anticipated in the near future.

Condemnation proceedings for the acquisition of property for multiple-purposes of hydro-electric power, flood control, and navigation, are within the constitutional rights of the Federal Government "to regulate Commerce with foreign Nations, and among the

several States," as set forth in Article I of Section 8 of the Constitution. Within the broad scope of the commerce powers,
4 Congress has plenary control of waterways to the extent that it is necessary to regulate such commerce. It has the right to build dams in navigable or non-navigable streams. State of Arizona v. California, 283 U.S. 423, 51 S. Ct. 522, 75 L. Ed. 1154; State of Oklahoma v. Guy F. Atkinson Co., 313 U.S. 508, 523, 61 S. Ct. 1050, 85 L. Ed. 1487. It may prohibit the construction of a dam in a navigable or non-navigable stream. 33 U.S.C.A. § 401; U.S. v. Rio Grande Dam & Irrigation Co., 174 U.S. 690, 19 S. Ct. 770, 43 L. Ed. 1136; U.S. v. Appalachian Electric Power Co., 311 U.S. 377, 61 S. Ct. 291, 85 L. Ed. 243. It may require private parties to obtain a license as a condition precedent for constructing improvements or encroachments on navigable or non-navigable streams. U.S. v. Appalachian Electric Power Co., 311 U.S. 377, 61 S. Ct. 291, 85 L. Ed. 243; Georgia Power Co. v. Federal Power Commission, 5 Cir., 152 F. 2d 908. It may market electrical energy generated by a government dam. U.S. v. Chandler-Dunbar Water Power Co., 229 U.S. 53, 33 S. Ct. 667, 57 L. Ed. 1063; Ashwander v. Valley Authority, 297 U.S. 288. In constructing these projects it is not required to comply with state law. State of Arizona v. California, 283 U.S. 423, 51 S. Ct. 522, 75 L. Ed. 1154, and by statute a licensing system has been provided which supersedes state law on the same subject. First Iowa Hydro-Elec. Co-op. v. Federal Power Comm., 328 U.S. 152, 66 S. Ct. 906, 90 L. Ed. 1143; 16 U.S.C.A. § 791a et seq.

But in the exercise of the powers vested under the Commerce Clause in the Federal Government, an express limitation is imposed by the Fifth Amendment providing that private property shall not be taken by the Federal Government for public use "without just compensation" to the owner. "Just compensation" is meas-
5 ured by the market value of the property, taking into consideration all uses to which the property is presently devoted, as well as all other uses (including the most profitable), to which it may be adapted in the reasonably near future. The award to the landowner is not the value of the property for any particular purpose, and no special adaptability is to be separately valued and then added to the market value of the property for other purposes, but in arriving at the fair market value of all reasonable uses of the property, if not remote or speculative must be taken into consideration. United States v. Powelson, 4 Cir., 138 F. 2d 343; Olson v. United States, 292 U.S. 246, 54 S. Ct. 704, 78 L. Ed. 1236; United States v. Miller, 317 U.S. 369, 63 S. Ct. 276, 87 L. Ed. 336, 147 A.L.R. 55; Boom Co. v. Patterson, 98 U.S. 403, 25 L. Ed. 206; Clark's Ferry Co. v. Comm., 291 U.S. 227, 54 S. Ct. 427, 78 L. Ed. 767.

Nichols on Eminent Domain, Second Edition, volume 1, Section

217, lays down the rule that: " * * * when a parcel of land is taken for public use by the exercise of the power of eminent domain, the measure of compensation is the fair market value of the land. By fair market value is meant the amount of money which a purchaser willing but not obliged to buy the property would pay to an owner willing but not obliged to sell it, taking into consideration all uses to which the land was adapted and might in reason be applied."

Again, the same text lays down the rule: "In determining the market value of a piece of real estate for the purposes of a taking by eminent domain, it is not merely the value of the property for the use to which it has been applied by the owner that should be taken into consideration, but the possibility of its use for all purposes, present and prospective, for which it is adapted and to which it might in reason be applied, must be considered, and its value for the use to which men of prudence and wisdom and having
6 adequate means would devote the property if owned by them must be taken as the ultimate test." Nichols on Eminent Domain, Volume 1, Section 219, page 665.

These principles are well established in the reported cases, supra, as well as in many other Federal decisions. Monongahela Navigation Co. v. United States, 148 U.S. 312, 13 S. Ct. 622, 37 L. Ed. 463; United States v. New River Collieries Co., 262 U.S. 341, 343, 43 S. Ct. 565, 67 L. Ed. 1014; United States v. Causby, 328 U.S. 256, 66 S. Ct. 1062, 90 L. Ed. 1206; United States v. Powelson, 319 U.S. 266, 293, 63 S. Ct. 1047, 87 L. Ed. 1390; see, also, Ford-Hydro-Electric Co. v. Neely, 7 Cir., 13 F. 2d 361; Union Electric Light & Power Co. v. Snyder Estate Co., 8 Cir., 65 F. 2d 297.

Under these authorities market value, or just compensation, cannot be affected by the identity of the taker, and this is true, although the Government as condemnor may be vested with paramount rights under the Commerce Clause of the Constitution. Such paramount rights relate to the waters in streams and obstructions to navigation maintained therein. They include no rights whatever to "fast lands", *even though the owner's title may originate in a grant from the United States.* As stated by Mr. Justice Miller in Pumpelly v. Green Bay & Mississippi Canal Company, 13 Wall. 166, 80 U.S. 166, 20 L. Ed. 557, *"the absolute ownership and right of private property in such land is not varied by the fact that it borders on a navigable stream".* (Emphasis added.)

The recent case of U.S. ex rel T.V.A. v. Powelson, which arose in the Fourth Circuit, and followed a somewhat tortuous course through the courts, I regard as controlling. It is first reported in United States v. Southern States Power Co., D.C., 33 F. Supp. 519;

then in United States v. Powelson, 118 F. 2d 79; then in 319
7 U.S. 266, 63 S. Ct. 1047, 87 L. Ed. 1390, and finally in 138
F. 2d 343. Powelson owned certain lands in North Carolina located on the Hiwassee river, a non-navigable stream, the waters of which, however, affected commerce or navigation on the Tennessee river, a navigable waterway of the United States. The Government condemned this property in connection with the Tennessee Valley Project. The property consisted of some 22,000 acres of wild mountain land, including dam sites which Powelson claimed constituted the basis of an integrated power development which had theretofore been planned. He offered evidence as to the acquisition and suitability of the lands for water power development and, as a basis for arriving at its market value, introduced evidence as to the theoretical profits which might have been derived from the completed project had he been permitted to develop it. The commissioners, the Three-Judge statutory court, and the Circuit Court of Appeals, while differing as to the amount, all allowed values based on theoretical profits from the potential use of the property for such development. On appeal, the Supreme Court, 319 U.S. 266, 63 S. Ct. 1047, 1057, 87 L. Ed. 1390, by a five to four decision, held that the lower courts had erred in allowing values based merely on hypothetical profits which might have been reaped had Powelson been able to launch the project, in that such a holding gave effect to values attributable to the power of eminent domain which Powelson held under the North Carolina law but which the Court said was merely a revocable license or privilege falling short of being a property right. The holding of the Court is summarized by the following excerpt from its opinion: "We hold *only* that profits, attributable to the enterprise which respondent hoped to launch, are inadmissible as evidence of the value of the lands which were
8 taken. Respondent is, of course, entitled to the market value of the property fairly determined. And that value should be found in accordance with the established rules (United States v. Miller, 317 U.S. 369, 63 S. Ct. 276, 87 L. Ed. 336, 147 A.L.R. 55, supra)—uninfluenced, so far as practicable, by the circumstance that he whose lands are condemned has the power of eminent domain." (Emphasis added.)

The Supreme Court did not hold that Powelson was not entitled to proximity or location value, but only that such value could not be shown by proof of hypothetical profits of a hoped-for enterprise. That the Circuit Court construed the decision to be thus limited is shown by the following statement of Judge Parker: "In reversing the decision of this Court, the Supreme Court held that the respondent's privilege to use the power of eminent domain might

not be considered in determining whether there was a reasonable probability of the lands in question being combined with other tracts into a power project in the reasonably near future, and that respondent had not established the basis for proof of the 'water power value' which was asserted except upon the assumption that is possessed the power of eminent domain.' The limited nature of the decision was shown by the opening sentence of the next to the last paragraph of the opinion wherein the Court said: 'We hold only that profits, attributable to the enterprise which respondent hoped to launch, are inadmissible as evidence of the value of the lands which were taken.'" United States v. Powelson, 4 Cir., 138 F. 2d 343, at page 344. In holding that the value of the land was not limited to its value as wild mountain land, but that Powelson was entitled to show that it had a value over and above this for water power development; the Circuit Court, 138 F. 2d at pages 345-346, said: "Nothing said by the Supreme Court changes in any way the rule as to damages laid down in Olson v. United 9 States, 292 U.S. 246, 256, 54 S. Ct. 704, 708, 78 L. Ed. 1236, from which we quoted in our opinion as follows: 'The highest and most profitable use for which the property is adaptable and needed or likely to be needed in the reasonably near future is to be considered, not necessarily as the measure of value, but to the full extent that the prospect of demand for such use affects the market value while the property is privately held.' Mississippi & Rum River Boom Co. v. Patterson, 98 U.S. 403, 408, 25 L. Ed. 206; Clark's Ferry Bridge Co. v. Public Service Comm., 291 U.S. 227, 54 S. Ct. 427, 78 L. Ed. 767; 2 Lewis, Eminent Domain (3d Ed.) §707, p. 1233; 1 Nichols, Eminent Domain (2d Ed.) §220, p. 671. *The fact that the most profitable use of a parcel can be made only in combination with other lands, does not necessarily exclude that use from consideration if the possibility of combination is reasonably sufficient to affect market value. Nor does the fact that it may be or is being acquired by eminent domain negative consideration of availability for use in the public service.* City of New York v. Sage, 239 U.S. 57, 61, 36 S. Ct. 25, 60 L. Ed. 143. It is common knowledge that public service corporations and others having that power frequently are actual or potential competitors not only for tracts held in single ownership but also for rights of way, locations, sites, and other areas requiring the union of numerous parcels held by different owners. And, to the extent that probable demand by prospective purchasers or condemnors affects market value, it is to be taken into account. (Mississippi & Rum River) Boom Co. v. Patterson, ubi supra.'

"The difficulty presented by the record in this case is that the evidence of value produced by the owner was based almost entirely on profits of the enterprise which he hoped to launch, whereas the

10 evidence on the other side consisted almost entirely of the opinions of those who valued the land merely as wild mountain land without reference to any value it might have because of its availability as a power site. Opinions of persons knowing nothing of the value of land for water power purposes are not a fair criterion of its value, where there is evidence that it is available for such purposes. Persons in the immediate neighborhood may not be in a position to testify as to such value, but there may be others who are qualified to testify. *Certainly, one who has embarked upon the enterprise of a great water power development, has purchased and brought together thousands of acres of land for the purpose and spent hundreds of thousands of dollars in the enterprise, is entitled to have his holdings valued on some other basis than that of numerous small separated tracts of wild mountain land, if it be found, irrespective of the possession of the power of eminent domain by the landowner, that 'there is a reasonable probability of the lands in question being combined with other tracts into a power project in the reasonably near future'.* Market value is nothing but a hypothetical concept based upon what, in the opinion of those who know, a willing buyer would have to pay a willing seller of property in order to purchase it. *The question here is, not what wild mountain land was selling for in the community but what would the portion of land owned by Powelson and available for this water power development have been reasonably worth on the market when sold by one who was willing but not compelled to sell and bought by one who was willing but not compelled to buy. In arriving at this valuation, it is proper that those who make it take into consideration the fact that a large body of land has been brought together under one ownership and any special value that it may have acquired because of this fact.*" (Emphasis added.) United States v. Powelson, 4
11 Cir., 138 F. 2d 343, certiorari denied 321 U.S. 773, 64 S. Ct. 612, 88 L. Ed. 1067.

It thus appears that while this case nowhere departs from the doctrine that a riparian owner has no private property right in the flowing water of a navigable waterway of the United States, United States v. Chandler-Dunbar Water Power Co., 229 U.S. 53, 33 S. Ct. 667, 57 L. Ed. 1063, or in a non-navigable waterway affecting navigation, it does recognize that such lands may have a location or proximity value for power development purposes, notwithstanding the fact that any such potential use may be defeated by the exercise by the Government of its paramount right under the Commerce Clause to control, improve and regulate navigation.

The decision in the case of Grand River Dam Authority v. Grand-Hydro, 335 U.S. 359, 69 S. Ct. 114, 120, is the last statement of the Supreme Court relating to the questions here involved. In that

case a condemnee was held to be entitled to recover the full value of its property for hydro-electric development, where the taking was in the State Court, but was by a condemnor complying with Section 23(b) of the Federal Power Act.[1] After the condemnor in this case filed a declaration of intention under Section 23(b) of the Federal Power Act, the Commission found that "The construction and operation of said project in the manner proposed by the declarant will affect the interests of interstate commerce." Thereupon the condemnor secured from the Commission the federal license required for the project as one affecting navigable waters and reservations of the United States. The condemnor, however, did not by amendment, or otherwise, base its right of condemnation upon the Federal Power Act or upon any federal license issued thereunder. The proceeding was brought in an Oklahoma court, by "a government agency of Oklahoma, to exercise a right of condemnation granted by Oklahoma." The analogy between the reported case and the case now under consideration is close. In the Grand-Hydro case, recovery by the owner was sustained upon the basis of the location of its land and its availability for development for power purposes. The observation made by Mr. Justice Burton that the proceeding in the Grand-Hydro case was under the State law of Oklahoma, is coupled with the further statement, "It is clear that the Federal Power Act cannot be said to have so far affected the use of this land for a power site as to destroy or *otherwise render valueless the owner's right to use it for that purpose. That Act merely has attached conditions to the*

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[1] "Sec. 23 * * * .

"(b) * * * Any person, association, corporation, State or municipality intending to construct a dam or other project works across, along, over, or in any stream or part thereof, other than those defined herein as navigable waters, and over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States shall before such construction file declaration of such intention with the Commission, whereupon the Commission shall cause immediate investigation of such proposed construction to be made, and if upon investigation it shall find that the interests of interstate or foreign commerce would be affected by such proposed construction, such person, association, corporation, State, or municipality shall not construct, maintain, or operate such dam or other project works until it shall have applied for and shall have received a license under the provisions of this Act. If the Commission shall not so find, and if no public lands or reservations are affected, permission is hereby granted to construct such dam or other project works in such stream upon compliance with State laws." 49 Stat. 846, 16 U.S.C.A. § 817.

use of the land for a power site. The Act seeks to encourage rather than to prohibit the development of power sites. It seeks to preserve or enhance, not to destroy, their value as such. *While the Act has limited the type and manner of the use of this particular land for a power site, the Act has left great benefits available to the*
13 *owner from such a use of the land.* The present large development of this site by the petitioner under a federal license is convincing proof of the value and availability of the land for that purpose." (Emphasis added.)

Were the condemnee in this case asserting a right to recover some form of consequential damages allowable under the laws of this State, but not recognized under Federal law, the decision in the Grand-Hydro case would not be so pertinent. But the condemnee is not demanding consequential damages in these proceedings. In the Grand-Hydro case the Supreme Court, in dealing with the recovery under the State law, said: "* * * the fact that the state court purported to rest its decision largely on state law does not eliminate our duty to consider the question to the extent that it arises under federal law." The Supreme Court gave a full statement of the law of Oklahoma, 335 U.S. at pages 367-368, 69 S. Ct. 114, at page 119, relating to the measure of compensation to be awarded from which it appears that the general rule adopted in that case as to the measure of compensation under the state laws of Oklahoma is identical with the measure of compensation under the federal decisions. Olson v. United States, 292 U.S. 246, 54 S. Ct. 704, 78 L. Ed. 1236; Mississippi & Rum River Boom Co. v. Patterson, 98 U.S. 403, 25 L. Ed. 206; United States v. Powelson, 4 Cir., 138 F. 2d 343. It seems to me to follow that if the Federal Government, or one of its licensees proceeding under a license from the Federal Power Commission, had instituted the condemnation proceedings in the Grand-Hydro case, the measure of compensation would have been governed by the same rule. It is true, the Court said in the opinion, "If either the United States, or its licensee as such, were seeking to acquire this land under the Federal Power
14 Act, it might face different considerations from those stated above. The United States enjoys special rights and power in relation to navigable streams and also to streams which affect interstate commerce." I believe the opinion referred only to those special rights and power of the Government under the Commerce Clause for the protection of navigation, and has no application to a consideration of the value of "fast lands." Such rights can neither increase values when a State "takes" property, nor decrease them when the Federal Government, or a licensee standing in its shoes, "takes" it. The "loss to the owner", which is the test, is not varied according to the identity of the taker. To say that the Grand-Hydro's property could be valued at $800,000

in the former instance, but only $136,250 in the latter, when the State rule and the Federal rule as to the measure of compensation are the same, would be illogical. The character of the land could not be changed merely because the condemnor did not see fit to base its right of condemnation upon the Federal Power Act, or upon the federal license secured from the Federal Power Commission thereunder, 16 U.S.C.A. § 817, or because it did not seek to enforce such rights as it might have to condemn this land by virtue of its federal license. 16 U.S.C.A. § 814. No matter how the majority opinion be viewed the logical result is that where the rule as to the measure of compensation is the same, as it was in this case, the compensation must be the same regardless of the forum or the condemnor. Of course, it is possible that in some states consequential damages, or other form of damages, may be recoverable in condemnation proceedings, and under such circumstances, the Federal law rather than the State law would be applied when the taking was by the United States, or one of its licensees proceeding under such license. The following statement of the Supreme Court seems to be conclusive of the question: "No
15 precedent has been advanced which suggests that a *different* measure of compensation should be required where the United States rather than the state is the taker of the property for a public project. Nor has any reason been suggested why as a matter of principle or policy there should be a *different* measure of compensation in such a case." United States v. Powelson, 319 U.S. 266, at page 278, 63 S. Ct. 1047, at page 1054, 87 L. Ed. 1390.

I, of course, recognize the fact that neither the Savannah River Electric Company, nor anyone else, could utilize its property for the development of hydro-electric power from the Savannah river without first acquiring a Federal license under the Federal Power Act. But this is far from saying that its lands are thus deprived of all fair market value for such uses. Acquisition, in a large measure, precedes an application for a license. Public service corporations are willing to pay for power sites, well knowing that the inherent value cannot be realized without the possession of a Federal license. That a calculated risk may be involved does not destroy all market value for this purpose. The case at bar is a striking example that capital is willing to take such a risk. It is hardly conceivable that this Company would have invested the money to make the necessary engineering studies and surveys and to acquire and hold 40,000 acres of land, except in the hope and expectation of either procuring a Federal license and developing it, or selling it to one capable of so doing. To hold that the Government, by the act of taking, strips this land of all such value, which it had heretofore possessed, but, that, immediately after the taking, it re-acquired such value in the hands of the Government, conforms

neither to logic nor justice. While Monongahela Navigation Co. v. United States, 148 U.S. 312, at page 338, 13 S. Ct. 622, at page 631, 37 L. Ed. 463, may be distinguishable in other respects, its statement that " * * * reasoning which leads to such a result must have some vice, at least the vice of injustice" seems to be appropriate.

It is interesting to note that the regulations of the Federal Power Commission (dealing with power sites on Indian Reservations, which are in full control of the Government) provide: "When licenses are issued involving the use of tribal lands embraced within Indian Reservations, the Commission will fix a reasonable charge for the use thereof, based upon the commercial value of the land for the most profitable purpose for which suitable, *including power development*." (Emphasis added.) (Regulation 14, Section 3 of Federal Power Commission, referred to and dealt with in discussion of Flathead Power Development, presented by Mr. Walsh of Montana, Document No. 153, 71st Congress, 2d Session.). If it is the purpose of the law and the Supreme Court says that it is, or the policy of the Government, to encourage rather than prohibit the water power development of this nation, the accumulation of suitable lands by private companies, such as the condemnee here, for purposes of such development, must not be penalized by a denial of any compensation for the value arising from its careful accumulation and integration at great expense of the lands necessary to a profitable water power development, simply because thereafter the Federal Government itself decides to develop such property for water power purposes—unless it is the purpose that all subsequent power developments are reserved for public, as distinguished from private, exploitation. I do not understand it to be the congressional intent of the Federal Power Act that private water power developments are not to be permitted.

The Government strongly relies on United States v. Chandler-Dunbar Water Power Co., 229 U.S. 53, 33 S. Ct. 667, 57 L. Ed. 1063, as controlling authority on the main issue herein. I do not so construe it. There the owner had constructed, under a revocable federal license, a dam and power development in the bed of a navigable stream. Its license was revoked and the works condemned, together with certain fast lands contiguous thereto. The determinative and limited question, as stated by the Court, 229 U.S. at page 60, 33 S. Ct. at page 671, was "whether the Chandler-Dunbar Company has any private property *in the water power capacity of the rapids and falls of the St. Mary's River which has been 'taken,' and for which compensation must be made under the 5th Amendment to the Constitution.*" (Emphasis added.) After pointing out that the dam and works had been determined to be an obstruction to navigation, and that the license to construct and

maintain them had been revoked (thus in effect making the owner of the obstruction a trespasser on the public domain) the court with understandable logic, decided that it did not. It, however, awarded compensation for "fast lands", including their potential availability for canal purposes. Had the present condemnee built a dam and power house in the bed of Savannah river under a revocable license which had been revoked and the structures condemned or ordered removed by Congress as an obstruction to navigation, the factual situation would be analogous. Under such circumstances no recovery could be had for the "water power capacity" of the Savannah river. But, I do not understand that the condemnee by its answers claims to have any private property right in the "water power capacity" or the "raw water" of the river; neither has it built, nor does it own, any structures in the stream for which it claims compensation. On the contrary, its claim is limited to the fair market value of its *fast* lands, based upon "the most profitable use to which the land can probably be put in the reasonably near future." McCandless v. United States, 298 U.S. 342, at page 345, 56 S. Ct. 764, at page 765, 80 L. Ed. 1205. In the case under consideration it is significant that no obstruction in the Savannah river has been ordered removed, but that the condemnor is now constructing a dam similar to that contemplated by the condemnee and for which the lands here involved were acquired by the condemnee. Under these circumstances, the application of the paramount rights of the Government under the Commerce Clause, does not result in limiting or restricting the right of the condemnee to recover just compensation for its "fast lands". When the Chandler-Dunbar Water Power case is considered in the light of its facts and the limited issue there presented, I do not see its applicability to the case at bar. It was not cited as authority in the opinion of the Fourth Circuit Court of Appeals in the Powelson case. It was not cited in the majority opinion in the Grand-Hydro case. Indeed, if the construction put upon the Chandler-Dunbar Water Power decision by the Government in this case is right, it is strange that such construction was not applied by the Court of Appeals of the Fourth Circuit in the Powelson cases, or by the Supreme Court in the Grand-Hydro case. Certainly, it cannot be said to have foreclosed the question, in the light of what the Supreme Court said in the Grand-Hydro case, "Accordingly, we express no opinion upon what would be the appropriate measure of value in a condemnation action brought by the United States or by one of its licensees in reliance upon rights derived under the Federal Power Act."

If the allegations and implications of the answers are true, and for the purpose of this motion they must be so taken; the Savannah River Electric Company, to paraphrase the language of the Powelson

case, supra, had embarked upon the enterprise of a great
19 water power development, had purchased and brought to-
gether forty thousand acres of land for that purpose and
had spent hundreds of thousands of dollars in that enterprise. It, therefore, is entitled to have its holdings valued on some other basis than that of numerous small separated tracts of agricultural, grazing or timber lands, if it be found, irrespective of the possession of the power of eminent domain, that there is a reasonable probability of the lands in question being combined with other tracts, which might be necessary to the development, in the reasonably near future.

The assertion made in the motion that I cannot pass upon the value of land not included in the condemnation proceedings must be viewed in the light of the right to severance damage. The unitary value of the property of the condemnee as a whole is a material matter for consideration and it is well settled that just compensation must be paid not only for the property actually taken but also for the destruction of the unitary value of other property not presently taken, which may have a special value because of its unification with the property taken. United States v. Powelson, 4 Cir., 118 F. 2d 79, 87; Sharpe v. United States, 3 Cir., 112 F. 893, 57 L.R.A. 932; Archer v. United States, 251 U.S. 548, 40 S. Ct. 342, 64 L. Ed. 409; United States v. Miller, 317 U.S. 369, 63 S. Ct. 276, 87 L. Ed. 336, 147 A.L.R. 55; Olson v. United States, 292 U.S. 246, 262, 54 S. Ct. 704, 78 L. Ed. 1236. For this reason the allegations by the condemnee as to unitary value are material and relevant and should not be stricken, and the motion therefor is overruled.

I, of course, have no jurisdiction nor desire to control in any way the discretion of Governmental authorities in connection with the Clark Hill project. A consolidation for trial of all pending cases
in each district has already been informally ordered. No
20 doubt any additional condemnation proceedings which the
Government may elect to file will be filed prior to the trial and determination of the pending cases, in which event I will again consider the propriety of consolidating all of such proceedings as between the condemnor and the condemnee for final trial.

The further contention that certain portions of the answer are immaterial, contain conclusions and inferences or erroneous assumptions of fact and contain "evidential" matter, must be viewed in the light of the procedural law of South Carolina. There is no requirement in this State that a condemnee file an answer in a condemnation proceeding, as the only issue which can be litigated in such proceeding is the value of the property taken. On the other hand, there is no inhibition against a condemnee filing an answer. The only effect, therefore, which the filing of an answer could have would be to inform the condemnor of the position taken by the condemnee in its assertion of value. For this reason the answers

could not be prejudicial to the rights of the condemnor, but, on the contrary, tend to restrict the condemnee to such values as it has alleged. The motion on this ground is without merit.

It was stipulated that similar motions to strike the answers in cases pending in the United States District Court for the Southern District of Georgia, as well as in the single case filed in the Middle District of Georgia, present the same issues that are presented here. A hearing was held in Augusta, Georgia, before the three Judges having jurisdiction in said districts. At this hearing Twin City Power Company appeared, and, as similar questions were involved as to lands owned by that company, it participated in the hearing, with a like participation by Augusta Power Company.

Other landowners not directly involved in the proceeding, but
21 owning land to be later condemned by the Government, were also permitted to appear as amicus curiae.

While what has been said has related particularly to the condemnation proceedings against Savannah River Electric Company, similar questions are presented in the motions to strike portions of the answers of Twin City Power Company and Augusta Power Company. By agreement I was authorized to deal with all of these questions in a single order, as the only difference that might exist is such factual differences as may arise in the evidence. The rulings herein set out are, therefore, made applicable to the similar issues presented in the other cases mentioned. Accordingly an order will be entered, overruling the motions in each of the cases.

In United States District Court

REPORT OF COMMISSIONERS—May 14, 1953

To the Honorable C. C. Wyche, United States District Judge for the Western District of South Carolina, and to the Honorable F. M. Scarlett, United States District Judge for the Southern District of Georgia:

The undersigned, as Commissioners, comprising a commission in equity in the above entitled proceedings, respectfully submit herewith the following Report:

By Orders of Honorable C. C. Wyche, United States District Judge of the Western District of South Carolina, and Honorable F. M. Scarlett, United States District Judge of the Southern District of Georgia, the above entitled proceedings were referred to Commissioners, as provided in Rule 71A (h) of the Rules of Civil Procedure, said Orders authorizing the Commissioners to hear the issues presented in the above entitled proceedings, both those arising in South Carolina and those arising in Georgia, relating to the value of the

lands in South Carolina of The Twin City Power Company, and
the lands in Georgia of The Twin City Power Company
22 of Georgia, taken from those Corporations by The United
States of America in the exercise of its power of eminent domain.
Said Orders provided that the Commissioners should have the powers of a Master, and should be governed by the provisions of Rule 53 of the Rules of Civil Procedure, so far as such provisions were applicable.

Thereafter, by appropriate Orders issued by Honorable C. C. Wyche and Honorable F. M. Scarlett, the undersigned were appointed Commissioners; the issues of just compensation insofar as they affect the Twin City Power Company and the Twin City Power Company of Georgia being referred to us for determination. Pursuant to such appointments as Commissioners, a series of hearings in the above entitled proceedings were held in The United States District Court Houses, in Greenwood, South Carolina, and in Augusta, Georgia; the first of said hearings being on January 25th, 1952, and the last of said hearings being on October 31st, 1952.

At the same time, issues of just compensation with respect to certain properties, and possibly certain alleged incorporeal rights, of Augusta Power Company, which had been taken from Augusta Power Company by The United States of America in the exercise of its power of eminent domain, were likewise referred to the undersigned, as Commissioners; but, at the first hearing held in Greenwood, South Carolina, on January 25th, 1952, it was stipulated by and between attorneys for The United States of America and for the Augusta Power Company that all questions of value of properties taken from Augusta Power Company by The United States of America should be continued, and not considered, until the Commissioners had made their findings relative to the value of the properties taken from Twin City Power Company and Twin
City Power Company of Georgia. (See Record of Hearing on
23 January 25th, 1952, Pages 2 and 3). By reason of this stipulation, nothing herein contained is determinative, of any right or rights to compensation which the Augusta Power Company may have by reason of the fact that The United States of America has taken certain of its properties in the exercise of its power of eminent domain, and no rights of Augusta Power Company have been considered except insofar as a consideration of same have been necessary to determine the actual holdings of Twin City Power Company and Twin City Power Company of Georgia which were taken by The United States of America, and for which said Corporations claim just compensation.

At these various hearings of the issues in the above entitled proceedings, a rather substantial amount of evidence was presented to the Commissioners for their consideration, and the parties in

interest in these proceedings have introduced in evidence a considerable number of exhibits; and the Transcript of Record of the testimony offered, and the exhibits introduced in evidence by the various parties in interest in these proceedings, are submitted together with this Report. While some of the testimony was offered, and some of the exhibits were introduced in evidence, while the hearing was being held in The United States District Court for the Southern District of Georgia, in Augusta, and, likewise, while some of the evidence was offered, and some of the exhibits introduced in evidence, while the hearing was being held in The United States District Court for the Western District of South Carolina, in Greenwood, it was stipulated by and between counsel for The United States of America and counsel for Twin City Power Company, Twin City Power Company of Georgia, and William P. Dauchy, Trustee, that all exhibits put in evidence, and all evidence contained in the Transcript of Record, should be considered as
24 having been offered in evidence in both The United States District Court for the Western District of South Carolina and in The United States District Court for the Southern District of Georgia, so that the record herewith presented, together with this Report, applies with equal force to the proceedings arising in The United States District Court for the Western District of South Carolina and to the proceedings arising in The United States District Court for the Southern District of Georgia.

Between June 19th, 1947, and July 13th, 1950, The United States of America filed Declarations of Taking in both The United States District Court for the Southern District of Georgia and in The United States District Court for the Western District of South Carolina, by which, in the exercise of its power of eminent domain, it took from Twin City Power Company of Georgia and Twin City Power Company certain lands owned by those Corporations in fee, and also certain lands in which those Corporations claimed to have flowage rights and what, for the sake of convenience, were termed option rights. The properties of these Corporations lie on and adjacent to both sides of the banks of the Savannah River, and extend from the location of Price's Island up the river for a distance of approximately eleven (11) miles. The principal issue before the Commissioners in these proceedings is to determine the just compensation which those Corporations are entitled to receive by reason of the taking of said properties from them by The United States of America in the exercise of its power of eminent domain; said properties being necessary for the construction and establishment of a dam at Clark Hill and its necessary storage basin.

The United States of American, plaintiff in these proceedings, does not attack the de facto existence as Corporations of the Twin

City Power Company and the Twin City Power Company of
25 Georgia; it is uncontradicted that the Twin City Power Company of Georgia is a subsidiary of the Twin City Power Company, a South Carolina Corporation, and that the Twin City Power Company owns all of the stock of the Twin City Power Company of Georgia. Also, it is uncontradicted that these Corporations issued a substantial amount of bonds, and that William P. Dauchy is the present holder of these bonds as Trustee for the beneficial owners thereof. For the sake of convenience, and to avoid repetition, Twin City Power Company and Twin City Power Company of Georgia will be hereinafter referred to by the designation of "Twin City", and it is intended that said designation shall apply to both Corporations.

The principal issues between the plaintiff, The United States of America, and the defendants, Twin City, arise with respect to a determination of the just compensation to which Twin City is entitled by reason of the taking of its properties by The United States of America. The evidence shows that, between the years 1901 and 1910, principally, Twin City acquired a site at what is known as Price's Island, on and in the Savannah River, for the purpose of constructing a dam for the creation of hydro-electric power; and, in furtherance of its intention to create a hydro-electric power development on the Savannah River purchased a substantial number of acres on both the Georgia and South Carolina sides of the Savannah River, on and immediately adjacent to the banks of said river, for the purpose of using said lands as a storage basin for the hydro-electric dam to be constructed at Price's Island. The history of this proposed development will be considered in some detail hereafter, but the evidence rather conclusively establishes
26 the fact that Twin City had in mind the erection of a dam for a sixty-foot head of water, and that approximately Four Hundred (400) Acres, in addition to what it owned, would be required for the storage basin for the sixty-foot dam. With exceptions so small as to be of no consequence, The United States of America took all of these properties, both the dam site and the acreage for the storage basin, in the above-entitled proceedings.

Twin City's position is that just compensation, under these circumstances, means the payment to it of a sum which will represent the value of these properties as a potentially integrated hydro-electric power development, and that its water power value is the true measure of damages in these cases.

On the other hand, it is the position of The United States of America that, inasmuch as Twin City had held these properties for some thirty-five or forty years, without establishing a hydro-elec-

tric water power project there, and since, by reason of the fact that a project, of the nature proposed and at the proposed location, was no longer a licensable project at the time of the taking by plaintiff, its potential water power value is not the proper measure of damages; but that the value of the properties taken from Twin City should be determined on the basis of their agricultural or wild forest land value. Plaintiff further maintains that, after the Declarations of Taking in Civil Action No. 432, filed on June 19th, 1947, in which Tracts E-434 and E-439, containing 1,064.47 Acres and 328.00 Acres, respectively, were taken, the other properties of Twin City certainly had no further power value; and, consequently, even if power value afforded the true measure for arriving at just compensation, such valuation would only be considered with respect to the acreage taken in Civil Action No. 432, and no existence of power value should be considered in connection with the lands and other property rights taken from Twin City in the other actions.

27 In order to reach a conclusion relative to the just compensation to which Twin City is entitled, it first becomes necessary to determine the extent and nature of the properties or property rights which have been taken from Twin City in these proceedings by the plaintiff in the exercise of its right of eminent domain. In reaching a determination of the extent and nature of these properties of Twin City, a number of issues have been raised which are collateral to the principal issue of just compensation, and it becomes necessary to determine these collateral issues or questions before a consideration of the principal issue before the Commissioners.

On September 18th, 1952, plaintiff herein, The United States of America, by its Attorney, and Twin City Power Company, Twin City Power Company, of Georgia, and William P. Danehy, as successor-trustee, by their Attorney, stipulated

"For the purpose of trial of valuation only, that Twin City Power Company of Georgia owned fee title in the following Tracts taken in the following proceedings by declarations of taking filed on the following dates in the United States District Court for the Southern District of Georgia:

CIVIL ACTION NO. 432—D/T Filed June 19, 1947

Tract No.	Acreage
E-434	1064.47
E-439	328.00
Total	1392.47 Acres

CIVIL ACTION No. 521 D/T Filed January 3, 1950

Tract No.	Acreage
E-443	429.51
E-446	128.03
E-457	24.26
E-498	3.20
G-600	247.06
Total	832.06 Acres

28 CIVIL ACTION No. 537 D/T Filed July 13, 1950

Tract No.	Acreage
E-449	5.51
G-616	121.53
G-627	546.78
G-694	10.00
Total	683.82 Acres

TOTAL GEORGIA Lands—2908.35 ACRES

Note:

1. Calhoun A. Mays, et al, as Trustees for Augusta Power Company, claim flowage rights or easements in Tract E-443 and Tract G-600.

2. J. W. Blackwell and J. W. Blackwell, as Administrator of the estate of Nettie Blackwell and the heirs of Nettie Blackwell, is duly named and served in Civil Actions Nos. 521 and 537, and an undivided 3/5 interest in Tracts E-446, E-457 and E-449.

3. Included in Tract G-627, Civil Action 537, as above set out, is 75 acres based on a deed from Annie P. Robinson, Exhibit 1, page 148. This matter is subject to the contentions of the parties as appears in the record.

At the same time, these parties further stipulated that

"For the purpose of trial of valuation only, it is stipulated that Twin City Power Company owned fee title in the following tracts taken in the following proceedings by declarations of taking filed on the following dates in the Western District of South Carolina:

CIVIL ACTION No. 1033 D/T Filed December 21, 1949

Tract No.	Acreage
F-500	1033
H-703	497
Total	1530 Acres

CIVIL ACTION No. 1073 D/T Filed July 5, 1950

Tract No.	Acreage
H-732	70.00
F-541 (part)	5.00
Total	75.00 Acres

CIVIL ACTION No. 786 D/T Filed June 23, 1947

Tract No.	Acreage
C-215	5.80 (Part, Old R. R.

TOTAL SOUTH CAROLINA Lands 1610.80 ACRES
TOTAL FEE ACREAGE IN GEORGIA AND SOUTH CAROLINA 4519.15

Note: The five acres above listed out of Tract F-541 of Civil No. 1073, is based on a deed from Martha Harris, Exhibit 1, page 173. Tract F-541, as a whole, appears to be previously owned or claimed by defendant L. T. Anderson, et al, and this matter is subject to the contentions of all interested parties, as will appear in the record."

At the same time, these parties further stipulated that

29 Subject to plaintiff's objections that the deeds set out in defendants' Deed Book, Exhibit 1, and the originals thereof are insufficient to convey or prove title, that the flowage easements have been abandoned under all the evidence, and that the options contained therein do not create a compensable interest in land nor any legal or equitable estate therein and have expired and become unenforceable under all the evidence; it is stipulated that the following deeds purport to grant the options and flowage easements therein described and, assuming a dam creating an 80 foot head at the downstream end of Price's Island, or as called for in said deeds, the acreage would be as follows:

C/A	Tract	Deed Book Page Ex. 1	Date of Deed Yr. only	Grantor to Twin City	Flowage acres	"Options" Acres
Georgia Land Acquired by Purchase	G-636	473	1910	Asa H. Vickery	32	
So. Carolina Lands 1073	C-221 C-222 F-547	151	1909	Thos. Robertson		28 32
1033 Acquired by Purchase 1073	(C-223) F-502 F-541	173	1909	Martha Harris		27 15
Acquired by Purchase 1073	F-525	136	1906	Jos. L. Bussey	54 4	
U. S. Forestry Lands	F-520 F-521 F-589	161	1909	T. J. Barrett		41
1033	H-701 H-702	142	1907	L. F. Dorn		67 86
1038	H-704	145	1907	Stone & Jennings		42 81
		119	1907		75	
1073	F-564	122	1906	W. J. Talbert	2	174 28
		125	1907		25	
1073	H-719	169	1909	N. G. & J. C. Brown		17 09
1073	H-703	148	1907	Annie P. Robinson		347 16
	TOTAL ACREAGE				188 5	745 38

Note:

1. The property rights, if any, conveyed by these instruments are to be determined by the language of the deeds and the terminology in the stipulation "flowage acres" and "options acres" has no legal significance and is used merely as a convenience."

Also, at the same time, and by the same stipulation the parties stipulated that

"The defendants' claim of ownership of an easement for a transmission line right of way 100 feet in width and running along the South Carolina side of the river from a point opposite Price's Island to North Augusta, South Carolina, is based on deeds appearing in Deed Book, Exhibit 1, at pages 800-893. This matter is subject to the contentions of the parties as appear in the record and the objections hereinabove set out with respect to flowage easements."

[At this point, beginning with the words "In connection with the so-called lands" of Twin City (page 11 of the mimeographed copy of the "Report of Commissioners") the Commissioners passed upon the rights of Twin City and others in some of the condemned lands. Discussion of these matters concludes with the last complete paragraph on page 37 of the mimeographed Report, just before "Having determined the issues relative to questions of lands and rights in lands," etc.

Since the questions decided in these parts of the Report are not being reviewed it is believed their omission will facilitate the Court's consideration of the appeals and as well reduce the costs of appeal. Accordingly appellant takes the liberty of omitting them from the Appendix.]

Having thus determined the issues relative to questions of lands and rights in lands, it appears that Twin City has fee simple title to 2,908.35 acres in the State of Georgia, and fee simple title to 1,610.80 acres of land in South Carolina, making a total of 4,519.15 acres to which it has title in fee. In order to be exact, however, it should be noted that the Blackwell heirs and the Blackwell Estate have an undivided 3/5ths interest in 157.80 acres of these lands, they being portions of Tracts Nos. E-446, E-457, and E-449.

31 However, the record establishes that there is no controversy between Twin City and the Blackwell heirs and the Blackwell Estate with reference to these 157.80 acres, and these parties have agreed that such compensation as is awarded for the taking of these acres shall be divided between Twin City and the Blackwell owners in the proportion of 2/5ths to Twin City and 3/5ths to the Blackwell heirs.

In addition, Twin City had valid enforceable flowage rights over 188.5 acres of land, of which 32 acres were situate in Georgia, being Tract G-636, and the remainder were situate in South Carolina, being Tracts F-525, H-704 and F-564. (See Record, Volume 5, page 46.)

In order to understand the contentions of the parties, it becomes necessary to state the factual situation in some detail, although such

will be summarized herein as briefly as is possible, consistent with clarity.

The history of Twin City is set out in extenso in the testimony of Mr. George E. O'Connor, a witness for defendant, (R. pps. 90-117), and of Mr. William A. Farley, a witness for the plaintiff, (R. pps. 430-495).

From that testimony, it appears that Twin City Power Company, a South Carolina Corporation, was incorporated under the laws of the State of South Carolina, in the year 1900, and Twin City Power Company of Georgia, a Georgia Corporation, was incorporated under the laws of the State of Georgia in the year 1901. Twin City Power Company owns all of the stock of Twin City Power Company of Georgia. About the year 1901, Twin City, using that term to cover both the parent corporation and its subsidiary, became indebted in the sum of approximately One Million ($1,000,000.00) Dollars, and executed a mortgage to secure such indebtedness to Merchants Trust Company of New York. At the present time, William P. Dauchy, of New York, is Trustee
32 under the terms of this mortgage. All stock in the parent corporation and its subsidiary is owned by members of the O'Connor family, either directly or through the parent corporation. Twin City started acquiring land, with a view to the building of a hydro-electric dam and appurtenant storage basin, in the year 1900, and the acquisition of lands and rights in lands for this purpose continued until the year 1911, there being only minor acquisitions of little consequence after the year 1911. Sometime between the years 1910 and 1915, Twin City built a railroad track from Modoc, South Carolina, to the dam site, a distance of approximately two and one-half miles, and this railroad siding remained there until approximately 1937, when the track had fallen into disrepair, had not been used, and the rails were taken up and sold for scrap iron rather than to permit them to rust away and lose their entire value.

Between 1901 and 1922, Twin City received licenses, under various Acts of Congress, some six or seven in number, to erect a hydro-electric power dam on the Savannah River, some of these Acts merely granting extensions of time within which to commence the work on the project. During the period from 1901 until 1922, Twin City had various surveys of the project made, for the purpose of determining the feasibility, the economic practicability, and the cost of erecting such hydro-electric power dam along its property holdings on the Savannah River. The latest survey and report was that made by The Ambursen Company, which was first made about 1914 or 1915, but which appears to have been kept current, and reasonably up-to-date, until after World War II.

The last authorization to construct such project having expired, in 1922, Twin City got a preliminary permit, to construct such

project on the Savannah River from the Federal Power
33 Commission during the year 1925, but later refused to comply with the terms of the preliminary permit, and tried to apply for permanent authorization, basing such action on the ground that the Federal Power Act was unconstitutional. However, after the preliminary permit was granted to Twin City, Savannah River Electric Company intervened, and opposed the granting of permanent authorization to Twin City. In the latter part of 1925, or the early part of 1926, Savannah River Electric Company applied to the Federal Power Commission for a permit to construct a hydro-electric dam on the Savannah River, which proposed land project would absorb the holding of Twin City. However, it never obtained such authorization, and, due, no doubt, to the economic situation which prevailed shortly thereafter, seems to have abandoned the idea of building such project for quite a number of years thereafter.

At one time, Savannah River Electric Company instituted proceedings to condemn the holdings of Twin City, but such action was abandoned, and Savannah River Electric Company never resumed such effort again thereafter.

At the Conclusion of World War II, Savannah River Electric Company applied to the Federal Power Commission for a permit to construct a hydro-electric dam at a point which is almost identical with that of the present Clark Hill dam site, but such authorization was refused, due to the fact that the United States desired to build a governmentally owned hydro-electric dam at the approximate site which Savannah River Electric Company proposed to use; and, at that time, public power projects were greatly favored as compared with such projects being built and owned by private capital.

During these years after World War II, Twin City had negotiated
34 with Savannah River Electric Company, as well as with some other corporations, looking toward a sale of the Twin City properties to such other corporations; but, of course, when it became evident that no privately financed project could be licensed on the Savannah River, these negotiations were discontinued.

It also appears that, shortly after President Roosevelt came into office, and when public projects began to assume increasing importance, numerous surveys of the Savannah River, from the Clark Hill dam site up the river for many miles, were made, and numerous reports were submitted to the President and to various governmental bodies and officials. The result of this interest of the United States in this portion of the Savannah River as a site for the establishment of a hydro-electric power project is the present Clark Hill Dam.

As appears from the record, and particularly from the testimony of Mr. O'Connor above referred to the last specific contem-

plated purpose for the use to which these holdings of Twin City should be put was the sale of same to Savannah River Electric Company or some other similar private corporation which desired or might desire, to construct such project along the Savannah River.

These holdings of Twin City comprise the proposed dam site at Price's Island, and extend up the Savannah River a distance of approximately eleven miles to what is designated as Chamberlain's Ferry, and, prior to these takings by the United States in the exercise of its power of eminent domain, these holdings constituted substantially what was needed for the construction of a dam at Price's Island and the establishment of a storage reservoir as an incident thereto. Twin City, as the record shows, particularly Exhibits 24 and 25, had holdings on both sides of the Savannah River, as well as islands in the river, and would have needed to acquire only about 400 acres more to construct a dam to
35 provide a 60-foot head of water at Price's Island. These specific details will be gone into more fully hereinafter.

It is uncontradicted that the site where Twin City proposed to construct this power project consists of timber lands and pasture lands, for the most part, with very little of its lands of approximately 4,500 acres being used for farming. There were no improved roads, no utility lines, no railroads, no bridges, no buildings, and practically no improvements of any nature that would have to be removed, raised, or otherwise provided for had the proposed dam at Price's Island been constructed.

Also, the record shows, without contradiction, that Twin City acquired all of its holdings by private negotiations and purchase, and never exercised the power of condemnation in its acquisition of any of these lands or rights in land.

As the record shows, the first date of taking of lands of Twin City by The United States was in 1947, being in June of that year, and the other actions hereinabove referred to were commenced after that date.

Under these circumstances, Twin City maintains that it is entitled to what we might term potential integrated water power value as the just compensation which it should receive in return for these properties taken from it by The United States. On the other hand, The United States contends Twin City is not entitled to water power value, and that the true measure of damages in order to award Twin City just compensation for the properties taken from it is the reasonable market value of these lands owned by it in fee, on the respective dates of taking, considered as agricultural or wild forest lands. The plaintiff presents the additional contention that, even if these holdings of Twin City did constitute

a potential integrated water power site at the date of the
36 first taking, in June, 1947, once the two tracts taken in the first action were taken from Twin City, that removed an integral part of the proposed development, with the result that the remaining holdings of Twin City had no potential water power value. It should be noted that, in the original action, the proposed dam site, including Price's Island, was one of the two tracts taken. In response to this second contention of the plaintiff, defendant contends that, even if the original taking in the first action destroyed the value of the remainder of defendant's holdings as an integral part of a potential power development, the defendant would be entitled to severance damages, which would be the diminution in original value of what Twin City had left due to the original taking from it in the first action.

Such are the contentions of the parties, and it is necessary to determine which position, in our opinion, is the sounder.

This Commission is fortunate in having had the very able and informative decision of the Court, when overruling plaintiff's motion to strike the answers of defendants, for its guidance during the course of this hearing and its consideration of the issues before it, and has also had the benefit of very exhaustive, comprehensive and able briefs submitted by counsel for plaintiff and defendants, as well as having had the benefit of very able oral arguments by counsel for the parties concerned.

While the evidence is greatly in conflict on many material points, there are certain salient facts which have been established to the satisfaction of the Commission. The first of these is that the proposed dam site at Price's Island, taken in conjunction with the holdings of Twin City above that site to Chamberlain's Ferry which would be available as a storage reservoir, constituted
37 a very good site for a hydro-electric power development. Not only do witnesses for defendant recommend this as a good site for such development (See Cregar, Record, pps. 125 et seq.; Johnson, Record, pps. 265 et seq.; and Courtney, Record, pps. 306 et seq.); but certain witnesses of plaintiff, admittedly experts in the field of hydro-electric power projects, conceded that this proposed site was well suited for establishing such power project. (See Farley, Record, page 460; and Logan, Record, pps. 687-688).

However, plaintiff takes the view that Twin City had long since abandoned any idea of erecting a dam and creating a power project at the site of its holdings along the Savannah River, and that such site had no water power value due to the fact that no private individual or corporation could procure a license to establish such project from the Federal Power Commission. Of course, the Savannah River being a navigable stream, no power projects

could be created thereon unless and until it obtained authority to do so from the United States or one of its governmental agencies. In other words, plaintiff's position is that this proposed project was not a licensable one to Twin City, to Savannah River Electric Company, or to any other privately owned corporation; and, therefore, it had no potential water power value in the hands of any individual or corporation who could not obtain a license to construct and establish such power project.

On the other hand, Twin City claims that it is entitled to potential integrated water power value, regardless of whether the project was licensable or not; and further, that it is entitled to such water power value, regardless of whether or not it had the power of eminent domain.

It is conceded by both parties that the Savannah River has ample, and more than ample, water at the proposed dam
38 site at Price's Island, to afford a constant head for a 60-foot, a 70-foot, an 80-foot, and on up to a 100-foot and above, head of water, so there is no question but that there was, and is, adequate water in the Savannah River at Price's Island, as well as up and down the river, to provide amply for a power development of the type originally proposed by Twin City.

After much consideration and deliberation, and taking into account all the evidence before us, this Commission is of opinion that Twin City is entitled to have compensation awarded it for the properties taken from it based upon the potential water power value of these properties at the times of the takings. The legal authorities by which we have been guided will be set out hereinafter, but we base our holding that Twin City is entitled to potential water power value on the following facts:

It is undisputed that the original purpose which Twin City had in acquiring, collecting and assembling these various property holdings was to establish a hydro-electric power development, and it was licensed to construct such project for a period of more than twenty years. While, of recent years, the trend of economics and politics was such that practically no private individual or corporation could obtain a license or authorization to construct a hydro-electric project on any navigable stream, with the result that, so far as Twin City is concerned, it is practically certain that it could not have obtained a license to construct such project on the Savannah River, that does not change the nature of its holdings, nor take from them, nor destroy, their potential water power value.

With one exception, the testimony of Mr. Roby (Record, pps. 467-575), it was agreed that it was economically feasible and prac-
tical to construct and maintain a hydro-electric power plant
39 at Price's Island, and the record is clear and certain that there would be no difficulty in selling the power generated

at such power plant. The fact that the United States would not issue a license to Twin City or to any other private corporation does not destroy the potential water power value of these properties, in our opinion, for they still had the potential value as an integrated power development, or an integral part of a larger power development, and the refusal to allow the creation of such development by the United States does not destroy the potential use for which these holdings of Twin City were adapted.

It is readily foreseeable, under certain circumstances, that the United States Government may regulate the mining, production and sale of uranium, due to its strategic value, and due to the enormous influence and effect that its use or improper use will have upon the future of this Country. However, assuming that the United States should enact legislation to prohibit the mining and sale of uranium ore, by any owners of property having such mineral deposits in the United States, it would hardly be maintained that such legislation destroyed the value of these properties as uranium mines, even though the owners thereof could not utilize the uranium without the authorization of our Government. In this instance, the holdings of Twin City had certain innate, potential values, by reason of the use to which they could be put, just as the uranium, lying in deposits beneath the surface of the soil, would have certain innate, potential uses to which it could be put; and the inherent value is present, whether the utilization thereof was prohibited by a legislative enactment or not.

It is readily conceivable that, due to the increasingly heavy demand made upon the petroleum industry by reason of the increasingly varied and extensive uses to which petroleum products are being put, some legislative action to control the obtaining of oil from the ground will be enacted, and it is conceivable that, under certain circumstances, our governmental bodies might prohibit the production of petroleum except on a limited or quota basis. However, assuming that the owners of lands containing oil deposits were prohibited from taking the oil therefrom, the inherent value of the property would still remain, and to take such property and pay for it on the basis of its being pasture land, or forest land, or agriculture land, would certainly not afford just compensation.

Again, it has been maintained, with much force and some merit, that the original taking of the first two tracts, including the dam site, in the action commenced in June, 1947, deprived the remaining holdings of Twin City of any potential power value, since the remaining lands would have no value as such without the dam site and other integral parts of the proposed development taken. Of course, such view would raise another issue, the question of severance damages to the remaining holdings of Twin City resulting

from the taking of the two tracts in the first action; but, in our opinion, the proper disposition of the above entitled cases requires a different approach to the problem.

The original taking was in Civil Action No. 432, and the Declaration of Taking was filed in the United States District Court for the Southern District of Georgia on June 19th, 1947. The first action in the United States District Court for the Western District of South Carolina was Civil Action No. 786, and the Declaration of Taking therein was filed on June 23rd, 1947. The last Declaration of Taking in Georgia was filed on July 13th, 1950, and the last Declaration of Taking in South Carolina was filed on
41 July 5th, 1950. While these Declarations of Taking were filed at different times, the sound view would appear to be that they were all a part of one general plan to take the properties needed for the establishment of Clark Hill dam and its storage reservoir, and that plaintiff had in mind the taking of, and intended to take, all of these lands from Twin City at the time of the first Declaration of Taking. Consequently, it is our view that these various actions, and attendant Declarations of Taking, are part and parcel of one general exercise of the power of eminent domain by plaintiff, and that the taking of these properties of Twin City should be logically considered the result of one general act on the part of plaintiff, rather than the result of a series of separate, disconnected and independent acts. Therefore, it is our considered opinion that the taking of one was a part of the taking of all, and that this should be considered as one act on the part of plaintiff.

Since the takings in these actions have appropriated all of the holdings of Twin City, with insignificant and immaterial exceptions, the question of severance damages does not arise, in our view.

The language of The Supreme Court of the United States, in United States v. Miller, 317 U.S. 369, 63 Sup. Ct. Rep. 276, would appear to indicate that such is the correct view. There the Court, speaking through Mr. Justice Roberts, says (63 Sup. Ct. Rep. 281):—

"If a distinct tract is condemned, in whole or in part, other lands in the neighborhood may increase in market value due to the proximity of the public improvement erected on the land taken. Should the Government, at a later date, determine to take these other lands, it must pay their market value as enhanced by this factor of proximity. If, however, the public project from the beginning included the taking of certain tracts but only one of them is
42 taken in the first instance, the owner of other tracts should not be allowed an increased value for his lands which are

ultimately to be taken any more than the owner of the tract first condemned is entitled to be allowed an increased market value because adjacent lands not immediately taken increased in value due to the projected improvement."

"The question then is whether the respondents' lands were probably within the scope of the project from the time the Government was committed to it. If they were not, but were merely adjacent lands, the subsequent enlargement of the project to include them ought not to deprive the respondents of the value added in the meantime by the proximity of the improvement. If, on the other hand, they were, the Government ought not to pay any increase in value arising from the known fact that the lands probably would be condemned. The owners ought not to gain by speculating on probable increase in value due to the Government's activities."

From this doctrine announced by The Supreme Court, as well as by reason of sound logic, it appears to us that the series of takings by the Government should be considered as one act, and the value of all the properties in these various actions should be determined by their value, as a whole, at the time of the original taking, so that Twin City should not be deprived of integrated water power value of the remaining lands it held after the taking of the first two parcels in the original action, in which the Declaration of Taking was filed on June 19th, 1947.

We shall, hereafter, quote at some length from the decision of the Court in United States of America v. 1532.63 Acres of Land, et al., 86 Fed. Supp. 467, since our conception of the doctrine of that case has been our yardstick in measuring what we conceive to be the sound view of the above mentioned cases.

43. Particularly pertinent in that decision is the language of the Court, where it is stated:—

"Certainly one who has embarked upon the enterprise of a great water power development, has purchased and brought together thousands of acres of land for the purpose and spent hundreds of thousands of dollars in the enterprise, is entitled to have his holdings valued on some other basis than that of numerous small separate tracts of wild mountain land, if it be found, irrespective of the possession of the power of eminent domain by the land owner, that 'there is a reasonable probability of the lands in question being combined with other tracts into a power project in the reasonably near future'. Market value is nothing but a hypothetical conception based upon what, in the opinion of those who know, a willing buyer would have to pay a willing seller of property in order to purchase it. The question here is, not what wild mountain land was selling for in the community, but

what would the portion of land owned by Powelson and available for this water power development have been reasonably worth on the market when sold by one who was willing but not compelled to sell and bought by one who was willing but not compelled to buy. In arriving at this valuation, it is proper that those who make it take into consideration the fact that a large body of land has been brought together under one ownership and any special value that it may have acquired because of this fact."

The Powelson case (U.S. v. Powelson, 319 U.S. 266, 63 Sup. Ct. Rep. 1047), has been the subject of much discussion, and, to quote, "followed a somewhat tortuous course through the courts". In that case, the United States had taken several thousand acres of land from Powelson, which were located along a non-navigable river in the State of North Carolina, although the waters
44 of said river did affect navigation. The power of the United States to condemn these lands was unquestioned, and the sole issue related to that of just compensation to be paid Powelson for the lands taken from him. In the original decision, anticipated or prospective profits to be realized from the construction and establishment of the proposed power development by Powelson were admitted in evidence, and were used as one of the bases for arriving at the proper measure of compensation. On appeal, it was held that such prospective or anticipated profits should not be considered in reaching a conclusion as to just compensation; and, for that reason, the decision below was reversed. However, the decision of The Supreme Court therein is confined to the adjudication of the issue as to whether or not such prospective or anticipated profits should be considered.

However, the language of the Court in the Powelson case is very pertinent in connection with the issue now before us, and we shall quote several excerpts therefrom.

The Supreme Court says (63 Sup. Ct. Rep. 1052, 1053):—

"An owner of lands sought to be condemned is entitled to their "Market value, fairly determined". United States v. Miller, 317 U.S. 369, 374, 63 S. Ct. 276, 280, 87 L. Ed. 336. That value may reflect not only the use to which the property is presently devoted but also that use to which it may be readily converted. Boom Co. v. Patterson, 98 U. S. 403, 25 L. Ed. 206, McCandless v. United States, 298 U.S. 342, 56 S. Ct. 764, 80 L. Ed. 1205. In that connection the value may be determined in light of the special or higher use of the land when combined with other parcels; it need not be measured merely by the use to which the land is or
45 can be put as a separate tract. McGovern v. New York, 229 U.S. 363, 33 S. Ct. 876, 57 L. Ed. 1228, 46 L.R.A., N.S., 391."

Quoting further from the same case, The Supreme Court says (63 Sup. Ct. Rep. 1054):—

"No precedent has been advanced which suggests that a different measure of compensation should be required where the United States rather than the state is the taker of the property for a public project. Nor has any reason been suggested why as a matter of principle or policy there should be a different measure of compensation in such a case."

Further quoting, The Supreme Court says (63 Sup. Ct. Rep. 1057):—

"The United States no more than a state can be excused from paying just compensation measured by the value of the property at the time of the taking merely because it could destroy that value by appropriate legislation or regulation."

Not only is Twin City guaranteed just compensation by the Fifth Amendment to the Constitution of The United States, but sound political and economic security requires that such be paid. As stated in Monongahela Navigation Co. v. United States, 148 U.S. 312, 13 Sup. Ct. Rep., 622.

"* * * in any society the fullness and sufficiency of the securities which surround the individual in the use and enjoyment of his property constitute one of the most certain tests of the character and value of the government".

The following statements of law from Olson v. United States, 292 U.S. 246, 54 Sup. Ct. Rep. 704, appear to us to be
46 pertinent and of controlling import in the proper determination of the issue before us:

"That equivalent is the market value of the property at the time of the taking contemporaneously paid in money. * * * He is entitled to be put in as good a position pecuniarily as if his property had not been taken. He must be made whole but is not entitled to more. It is the property and not the cost of it that is safeguarded by the state and Federal Constitutions. F. C."

"Just compensation includes all elements of value that inhere in the property, but it does not exceed market value fairly determined. The sum required to be paid the owner does not depend upon the uses to which he has devoted his land but is to be arrived at upon just consideration of all the uses for which it is suitable. The highest and most profitable use for which the property is adaptable and needed or likely to be needed in the reasonably near future is to be considered, not necessarily as the measure of value, but to the full extent that the prospect of demand for

such use effects the market value while the property is privately held. Mississippi & R.R. Boom Co. v. Patterson, 98 U.S. 403, 408, 25 L. Ed. 206; Clark's Ferry Bridge Co. v. Public Service Commission, 291 U.S. 227, 54 S. Ct. 427, 78 L. Ed. 767; 2 Lewis, Eminent Domain (3rd Ed.) § 707, p. 1233; 1 Nichols, Eminent Domain (2d Ed.) § 220, p. 671. The fact that the most profitable use of a parcel can be made only in combination with other lands does not necessarily exclude that use from consideration if the possibility of combination is reasonably sufficient to affect market value. Nor does the fact that it may be or is being acquired by eminent domain negative consideration of availability for use in the public service. New York v. Sage, 239 U.S. 57, 61, 36 S. Ct. 25, 60 L. Ed. 143."

47 "In respect to each item of property that value may be deemed to be the sum which, considering all the circumstances, could have been obtained for it; that is, the amount that in all probability would have been arrived at by fair negotiations between an owner willing to sell and a purchaser desiring to buy."

Also, we think the language of The Supreme Court of the United States, in Grand River Dam Authority v. Grand-Hydro, 335 U.S. 359, 69 Sup. Ct. Rep., 114, is very pertinent and of material influence in the decision of these cases, for there the Court says (69 Sup. Ct. Rep. 120):—

"Under this interpretation of the state law the answer to the remaining federal question is obvious. It is clear that the Federal Power Act cannot be said to have so far affected the use of this land for a power site as to destroy or otherwise render valueless the owner's right to use it for that purpose. That Act merely has attached conditions to the use of the land for a power site. The Act seeks to encourage rather than to prohibit the development of power sites. It seeks to preserve or enhance, not to destroy, their value as such. While the Act has limited the time and manner of the use of this particular land for a power site, the Act has left great benefits available to the owner from such a use of the land. The present large development of this site by the petitioner under a federal license is convincing proof of the value and availability of the land for that purpose."

"In a voluntary purchase of this land by the petitioner, as a willing purchaser, from the respondent, as a willing and unobligated seller, the value of it as a power site inevitably would have entered into the negotiated price."

48 It is true, in the Grand-Hydro Case, that The Supreme Court makes the following statement:

"If either the United States, or its licensee as such, were seeking to acquire this land under the Federal Power Act, it might face different considerations from those stated above. The United States enjoys special rights and powers in relation to navigable streams and also to streams which affect interstate commerce."

However, the Court further says:

"The United States, however, is not a party to the present case. It is not asserting its right to condemn this land."

Consequently, the latter statements from The Supreme Court are dicta, and were unnecessary in its decision of the above issue before it.

However, that statement is dealt with fully by the Court in United States v. 1532.63 Acres of Land et al., supra, and is therein disposed of in far better manner than this Commission is capable of doing.

As above stated, this Commission has been guided in its thinking, to a large extent, by the decision of the Court in United States v. 1532.63 Acres of Land et al. 86 Federal Supp. 467, and we shall quote, at some length, various statements of the controlling doctrines as announced by the Court therein.

"'Just compensation' is measured by the market value of the property, taking into consideration all uses to which the property is presently devoted, as well as all other uses (including the most profitable), to which it may be adapted in the reasonably near future. The award to the landowner is not the value of the property for any particular purpose; and no special adaptability is to be separately valued and then added to the market value of the property for other purposes, but in arriving at the fair
49 market value all reasonable uses of the property, if not remote or speculative, must be taken into consideration. United States v. Powelson, 138 F. 2d 343; Olson v. United States, 292 U.S. 246; United States v. Miller, 317 U.S. 369; Boom Co. v. Patterson, 98 U.S. 403; Clark's Ferry Co. v. Comm'n, 291 U.S. 227."

"Nichols on Eminent Domain, Second Edition, Volume 1, Section 217, lays down the rule that: * * *, when a parcel of land is taken for public use by the exercise of the power of eminent domain, the measure of compensation is the fair market value of the land. By fair market value is meant the amount of money which a purchaser willing but not obligated to buy the property would pay to an owner willing but not obligated to sell it,

taking into consideration all uses to which the land was adapted and might in reason be applied'."

"Again, the same text lays down the rule: 'In determining the market value of a piece of real estate for the purposes of a taking by eminent domain, it is not merely the value of the property for the use to which it has been applied by the owner that should be taken into consideration, but the possibility of its use for all purposes, present and prospective, for which it is adapted and to which it might in reason be applied, must be considered, and its value for the use to which men of prudence and wisdom and having adequate means would devote the property if owned by them must be taken as the ultimate test.' Nicholson on Eminent Domain, Volume 1, Section 219, page 665."

"Under these authorities market value, or just compensation, cannot be affected by the identity of the taker, and this is true, although the Government as condemnor may be vested with paramount rights under the Commerce Clause of the Constitution. Such paramount rights relate to the waters in streams and
50 obstructions to navigation maintained therein. They include no rights whatever to 'fast lands', even though the owner's title may originate in a grant from the United States. As stated by Mr. Justice Miller in Pumpelly v. Green Bay Company, 80 U.S. 166, 'the absolute ownership and right of private property in such land is not varied by the fact that it borders on a navigable stream'."

"In holding that the value of the land was not limited to its value as wild mountain land, but that Powelson was entitled to show that it had a value over and above this for water power development, the Circuit Court, at pages 345-346, said: 'Nothing said by the Supreme Court changes in any way the rule as to damages laid down in Olson v. United States, 292 U.S. 246, 256, 54 S. Ct. 704, 708, 78 L. Ed. 1236, from which we quoted in our opinion as follows: 'the highest and most profitable use for which the property is adaptable and needed or likely to be needed in the reasonably near future is to be considered, not necessarily as the measure of value, but to the full extent that the prospect of demand for such use affects the market value while the property is privately held'."

"Opinions of persons knowing nothing of the value of land for water power purposes are not a fair criterion of its value, where there is evidence that it is available for such purposes."

"It seems to me to follow that if the Federal Government, or one of its licensees proceeding under a license from the Federal Power Commission, had instituted the condemnation proceedings in the Grand-Hydro Case, the measure of compensation would have been governed by the same rule."

"Such rights can neither increase values when a State 'takes' property, nor decrease them when the Federal Government,
51 or a licensee standing in its shoes, 'takes' it. The 'loss to the owner', which is the test, is not varied according to the identity of the taker."

"No precedent has been advanced which suggests that a different measure of compensation should be required where the United States rather than the state is the taker of the property for a public project. Nor has any reason been suggested why as a matter of principle or policy there should be a different measure of compensation in such a case." United States v. Powelson, 319 U. S. 266, at page 278."

"To hold that the Government by the act of taking, strips this land of all such value, which it had heretofore possessed, but, that, immediately after the taking, it reacquired such value in the hands of the Government, conforms neither to logic nor justice."

"If it is the purpose of the law, and the Supreme Court says that it is, or the policy of the Government to encourage rather than prohibit the water power development of this nation, the accumulation of suitable lands by private companies, such as the condemnee here, for purposes of such development, must not be penalized by a denial of any compensation for the value arising from its careful accumulation and integration at great expense of the lands necessary to a profitable water power development, simply because thereafter the Federal Government itself decides to develop such property for water power purposes—unless it is the purpose that all subsequent power developments are reserved for public, as distinguished from private, exploitation."

Applying the legal principles and doctrines hereinabove announced to the facts and circumstances of the above entitled causes, it seems to us to be clear that these holdings of Twin City were peculiarly adapted for use as a site, or an integral portion of a site,
52 for a hydro-electric development by reason of their location in proximity to and along the Savannah River. As a matter of fact, practically all of these properties are now under water, as a part of the Clark Hill Power development; and, in view of that fact, it seems specious reasoning to say that these lands had no potential water power value at the time they were taken from Twin City.

The evidence is conclusive and practically uncontradicted, that the holdings of Twin City lay in and along either side of the Savannah River, and that there was a 60-foot fall in the river from Chamberlain's Ferry to the lower end of Price's Island, which was the territory comprising the holdings of Twin City. The testimony of the witnesses clearly established that Twin City held enough

real estate, for all practical purposes, to establish a hydro-electric development, with a 60-foot head of water, at Price's Island, and that these properties would probably be more valuable, for hydro-electric purposes, if combined with other properties for the establishment of a larger power development. The latter course is what the United States has done in constructing and establishing the Clark Hill Power Project and its necessary storage reservoir. By reason of their geographical location, these lands and other property rights of Twin City had a peculiar value for water power purposes; and, in the light of the established principles of law, hereinabove announced, we believe that the sound view is that Twin City is entitled to water power value in order that it receive just compensation for the properties taken from it.

Therefore, it now remains to determine what the value of these properties were for water power purposes.

In reaching a decision on this question, the Commission is fortunate in having had the testimony of very skilled, capable, competent, learned and experienced hydro-electric engineers; and
53 we were greatly impressed with the testimony that was given by those witnesses.

Dr. William P. Creager, Mr. R. C. Johnson, Mr. Neville C. Courtney, witnesses for Twin City, and Mr. William A. Farley, Mr. Harrison G. Roby and Mr. Eugene F. Logan, witnesses for the plaintiff, are all hydro-electric engineers of the highest standing, whose knowledge and capabilities in that field are beyond question.

As heretofore stated Mr. Logan, witness for the plaintiff, testified that the holdings of Twin City constituted a good site for a hydro-electric power development, but his testimony consisted principally in an explanation as to why it was impossible to accurately determine such water power value. Mr. Farley's testimony was confied principally to the fact that Twin City could not have gotten a license from the Federal Power Commission to construct such water power development at Price's Island and the river valley above; but he did state, during the course of his testimony, that Twin City's site was a good one for a hydro-electric power development, but not as good as that at Clark Hill. Mr. Roby did not question the fact that the holdings of Twin City constituted a suitable site for the establishment of a hydro-electric power development, but his testimony was confined almost exclusively to explaining why such development would be of no value, since an equivalent amount of power could be generated by steam at less expense than by the hydro-electric development.

To go into the testimony of these witnesses at length is neither necessary nor called for, and would certainly unduly prolong this Report. However, we call attention to the testimony of Mr. Roby,

as contained in pages 476-579 of the Record, and then to the reply testimony of Mr. Courtney, contained in pages 907-945 of the
54 Record and particularly Twin City's Exhibit 43-1, contained in pages 944 and 945 of the Record, in which he analyzes Mr. Roby's estimates for the cost of construction of a hydro-electric power installation at Price's Island, and the annual cost of producing power by water, and then shows that such computation is based upon much higher figures than those prevailing for work being done by private individuals and corporations during the years 1947 and following, which were the years in which these properties of Twin City were taken by the United States.

Dr. Creager, Mr. Johnson and Mr. Courtney were all clear in their opinions that the holdings of Twin City constituted valuable property for water power purposes, either taken alone, or in combination with lands of others to establish a much larger hydro-electric installation.

Mr. Johnson valued the holdings of Twin City for water power purposes, at a minimum of One Million Five Hundred Thousand ($1,500,000.00) Dollars. (Record, 265). Mr. Courtney, in his testimony, stated that these properties of Twin City had a value, for water power purposes, of at least One Million Nine Hundred Thousand ($1,900,000.00) Dollars. (Record, 310). Dr. Creager valued the properties of Twin City, for water power purposes, as having a fair market value of One Million Six Hundred Thousand ($1,600,000.00) Dollars. (Record, 151).

Before determining what we conceive to be the fair market value of the property of Twin City taken from it in these proceedings, it seems that some explanation should be made of the manner in which these engineers arrive at their water-power valuations of these properties.

Actually, as stated by Mr. Logan, there are some four different methods for evaluating potentially integrated water power sites, they being:

55 (1). Comparative sales of completed power projects of substantially similar nature in the same section of the country;

(2). The steam plant comparison method;

(3) The comparative cost of completed projects of substantially similar nature in the substantially identical section of the country; and

(4). The actual legitimate initial cost. Mr. Logan, in his testimony, stated that the property of Twin City could not be properly evaluated by any of those four methods, and finally testified that he knew of no manner by which the water power value of these properties could be accurately and properly ascertained. (Record,

594). However, during the course of his testimony, he explained that method (4), above set out, was used more as a base for rate making, rather than evaluating property.

From the testimony of all the witnesses, it developed that there have been no comparative sales of completed power projects of a nature substantially similar to the holdings of Twin City, and that there have been no completed projects of a substantially similar nature in this section of the country, the cost of which could be compared with the cost of establishing a completed project in and along the Savannah River at the location of the property of Twin City. For this reason, therefore, it developed that all the witnesses, in the main, had taken the steam plant comparison method as one of the principal bases for arriving at the water power value of the property of Twin City, taken by plaintiff in the above entitled actions. In that connection, we wish to make it clear that the figure arrived at by the so-called "steam plant comparison method", was not taken as an absolute guide, or basis, but was used as one of the principal bases, together with numerous other factors considered by these expert witnesses who evaluated the property taken from Twin City as being suited for a potentially integrated water
56 power project.

Briefly stated, the steam plant comparison method is used as follows:

These expert hydro-electric engineers first computed the annual cost of producing a definite amount of electric power by water, and then computed the annual cost of producing the same amount of electric power by steam. The difference between the annual cost of producing the power by steam and by water was then computed, capitalized on the basis of six (6%) per centum, which was considered to be the current and sound value of money, and such capitalized value was taken as a principal factor in arriving at the water power value of the property taken. Of course, such capitalized value of the difference between producing power by steam and by water was never taken as the true value of the hydro-electric site, but was considered as being of controlling influence in arriving at such valuation.

After considering all the evidence before us, this Commission is of opinion that the valuation given to the property of Twin City, for which it is entitled to receive just compensation in these actions, is that reached by Dr. Creager, being the sum of One Million Six Hundred Thousand ($1,600,000.00) Dollars, as hereinafter modified, for reasons set out below.

Dr. Creager gave various estimates of the value of this property taken from Twin City, varying the estimates in accordance with the height of the head of water resulting from the construction of

dams at the lower side of Price's Island. His calculations were based upon a 60-foot head a 70-foot head and an 80-foot head; and, as appears from his testimony, the larger the head the greater the value. In that connection, however, the evidence clearly establishes, in our opinion, that what Twin City had had in
57 mind was the establishment of a hydro-electric project with a 60-foot head of water, and our conclusions herein are based entirely on the premise that Twin City had a potentially integrated power site for establishing a hydro-electric plant with a 60-foot head of water. In our opinion, the evidence does not justify us in reaching the conclusion that any higher heads of water than that should be considered.

In reaching his conclusion that the proper valuation of the property of Twin City was One Million Six Hundred Thousand ($1,600,000.00) Dollars, Dr. Creager first figured that the annual cost of producing the power which a hydro-electric plant, with a 60-foot head of water, would produce was One Million Two Hundred Four Thousand ($1,204,000.00) Dollars. (R., 182); The annual cost of producing an equivalent amount of electric power by steam would be One Million Three Hundred Forty-three ($1,343,000.00) Dollars. (R., 179). That gave the water produced power an annual advantage over steam produced power of One Hundred Thirty-nine Thousand ($139,000.00) Dollars; and capitalized at Six (6%) per centum, this gave the potentially integrated power site of Twin City a theoretical value of approximately Two Million Three Hundred Thousand ($2,300,000.00) Dollars. Using that as a guide, Dr. Creager then valued this potentially integrated power site at One Million Six Hundred Thousand ($1,600,000.00) Dollars, the difference of some Seven Hundred Thousand ($700,000.00) Dollars being to cover fluctuations in market, the risk that a prospective developer of this project would have to take, fluctuations in demand for power, additional lands that would have to be acquired to complete the project, and other factors best known to that particular witness. In reaching this valuation of One Million Six Hundred Thousand ($1,600,000.00) Dollars, Dr. Creager
58 computed that Twin City would have had to acquire an additional four hundred (400) acres of land, in order to have the necessary storage reservoir, with a height above the pond level to afford a satisfactory measure of safety in case of high water. He estimated that these additional lands would require the expenditure of Four Hundred Sixty ($460.00) Dollars per acre, which he designated as the hold-up value which would be required to acquire these additional lands without the exercise of power of eminent domain. (R., 174, 175). The cost of acquiring these additional lands was taken into consideration by him in reaching his valuation of One Million Six Hundred Thousand ($1,600,000.00) Dol-

lars as just compensation for the value of lands taken from Twin City.

In our opinion, this represents a sound basis for arriving at the value of the lands taken from Twin City, and the just compensation to which it is entitled, but we further are of opinion that, in reaching this conclusion, Dr. Creager did not feel that Twin City had no rights in the 745.58 acres of land which have been designated as "options acres"; and, as above stated, it is our considered opinion that Twin City had no rights in said acres under the so-called options, at the time of the original Declaration of Taking, in June, 1947, and thereafter. For that reason, therefore, his valuation should be modified to take into consideration the lack of rights in and to these so-called "options acres". Dr. Creager did testify that he took into consideration the fact that Twin City might have to pay more than the considerations called for in the options, in order to exercise same, but he considered that Twin City still had the right to acquire these acres under the so-called option contracts, with which we cannot agree.

Therefore, it is our opinion that, in order to have the potentially integrated power site necessary to establish the dam with the
59 60-foot head, Twin City would have had to acquire an additional 745.58 acres of land, and the only sound way to compute the cost of such acquisition, from the evidence, is to take Dr. Creager's figure of Four Hundred Sixty ($460.00) Dollars per acre. On that basis, the valuation given by Dr. Creager should be decreased by Three Hundred Forty-Two Thousand Nine Hundred Sixty-six and 80/100 ($342,966.80) Dollars, the cost of acquiring the lands which comprised the so-called "options acres", which leaves the lands of Twin City with a sound market value, for water power purposes, of One Million Two Hundred Fifty-seven Thousand Thirty-three and 20/100 ($1,257,033.20) Dollars.

The payment of that amount for the property taken from Twin City in these actions will, in our opinion, be just compensation, both from the viewpoint of the condemnor and of the condemnee.

That amount, of course, is just compensation for all of the property taken from Twin City, in the various actions hereinabove set out—and it becomes necessary to allocate a proportionate amount thereof to the properties taken in these various actions.

First of all, we have given no consideration to the strip of land 100 feet in width and approximately twenty (20) miles in length which is referred to as the transmission line right-of-way. The evidence from all the witnesses for Twin City conclusively establishes that such transmission line right-of-way, if in fact Twin City had such right-of-way at the time of these takings, would not have been used, but that Twin City would have tied into a much closer and more convenient line. For that reason we have

eliminated from such consideration such rights, if any, as Twin City might have had, or now has, in this transmission line right-of-way or any part thereof.

60 By stipulation, the lands owned by Twin City in fee (disregarding, for the moment, the partial interest of the Blackwell heirs in certain tracts), comprises a total of 4519.15 acres. In addition, it had flowage rights in 188.50 acres, and we have held that these flowage rights constituted valuable property rights at the times of the various takings in the above entitled actions, in our opinion. For water power purposes, the flowage lands are just as valuable as the lands owned in fee, since the establishment of a hydro-electric plant with accompanying storage reservoir would result in all the lands, for all practical purposes, being overflowed. Therefore from the viewpoint of water power value, the fee acres and the flowage acres all have the same value, acre for acre.

There being 4519.15 acres owned in fee and 188.50 acres over which Twin City had flowage rights, Twin City's integrated power site consisted of 4707.65 acres. As above stated, the entire site had a total valuation of One Million Two Hundred Fifty-seven Thousand Thirty-three and 20/100 ($1,257,033.20) Dollars, and it necessarily follows that each of these 4707.65 acres had a value of Two Hundred Sixty-seven and 02/100 ($267.02) Dollars.

This potential integrated power site of Twin City was taken piecemeal; and, while in our opinion it was a part of one general plan, design or purpose, the dates of taking are different, and such dates of taking are of importance in connection with the question of interest. In each of the takings in each of the above entitled actions, Twin City is entitled to interest on the value of the property taken, computed from the date of the filing of the declaration of Taking, in each instance. Inasmuch as there is, of course, no contract or implied agreement between plaintiff and Twin City to pay interest, but such obligation follows as a matter of law,

61 then the just and true market value of the property taken in each taking must bear interest at the legal rate from the dates of the filings of the respective Declarations of Taking. Under the Statute Law of the State of Georgia, the legal rate of interest is Seven (7%) per centum; and, under the Statute Law of the State of South Carolina, the legal rate of interest is Six (6%) per centum. Consequently, for the takings in South Carolina, the interest will be computed at Six (6%) per centum of the value, commencing with the dates of the filings of the Declarations of Taking, respectively; and, in Georgia, the interest will be computed in a similiar manner at the rate of Seven (7%) per centum.

Taking each acre, whether it be an acre held in fee or an acre subject to flowage rights, as having an equal value, the following allocations of awards in these actions seem to be proper:

Lands in Georgia:

Civil Action No. 432. Declaration of Taking filed June 19, 1947.

Tract No.	Acreage	Value
E-434	1064.47	
E-439	328.00	
	1392.47	$371,817.34

with interest thereon at 7% from June 19, 1947.

Civil Action No. 521. Declaration of Taking Filed January 3, 1950.

Tract No.	Acreage	Value
E-443	429.51	
E-446	128.63	
E-457	24.26	
E-498	3.20	
G-600	247.06	
	832.06	$222,176.66

Since heirs of Blackwell Estate have a 3/5 interest in Tracts E-446 and E-457, this award should be allocated as follows: $24,398.69 to heirs of Blackwell Estate, and $197,777.97 to Twin City; each to bear interest at 7% from January 3, 1950.

62 Civil Action No. 537. Declaration of Taking Filed July 13, 1950.

Tract No.	Acreage	Value
E-449	5.51	
G-616	121.53	
G-627	546.78	
G-691	10.00	
	683.82	
G-636 (Flowage Acres)	32.00	
	715.82	$191,138.26

Since heirs of Blackwell Estate have a 3/5 interest in Tract E-449, this award should be allocated as follows: $882.77 to heirs of Blackwell Estate, and $190,255.49 to Twin City; each to bear interest at 7% from July 13, 1950.

Lands in South Carolina:

Civil Action No. 786. Declaration of Taking Filed June 23, 1947.

Tract	Acreage	Value
C-215	5.80	$1,548.72

with interest thereon at 6% from June 23, 1947.

Civil Action No. 1033. Declaration of Taking Filed December 21, 1949.

Tract	Acreage	Value
F-500	1033.00	
H-700	497.00	
	1530.00	$408,540.60

with interest thereon at 6% from December 21, 1949.

Civil Action No. 1073. Declaration of Taking Filed July 5, 1950.

Tract	Acreage	Value
H-732	70.00	
F-541 (Part)	5.00	
	75.00	
Flowage rights		
F-525	54.50	
F-564	102.00	
	231.50	$61,815.13

with interest thereon at 6% from July 5, 1950.

Note: Mathematical computation will disclose that the total allocations above set out fail to balance with the total found to be just compensation to the extent of $3.51. This is due to fractional values, and the Commission feels that this difference is, and trusts it will be considered, immaterial.

We respectfully recommend that the Court award judgment to Twin City in each of these actions in amounts and in the manner hereinabove specified and set out.

At the final hearing of the above entitled causes on October 31st, 1952, it was stipulated that payments of these awards, or judgments, should be made to Twin City and to William P. Dauchy, as Successor-Trustee, jointly. However, by letter of November 11th, 1952, counsel for Twin City stipulated and specified that such awards or judgments, should be paid to William P. Dauchy, Successor-Trustee, only, and that such payment would discharge in full all claims which Twin City should have, or claim to have, against plaintiff herein. This, of course, is subject to the rights of the parties upon appeal, and subject to further order of this Court and subsequent proceedings herein.

At the commencement of the hearings in these actions, counsel for plaintiff and for Twin City requested that this Commission make alternate findings; so that, if the Commission found that water power value was the true basis upon which to find just compensation, the Commission should still determine what, in its opinion, was the sound and just value of the lands taken, based upon agricultural or wild forest lands valuation. Conversely, in the event the Commission had determined that agricultural or wild forest lands value was the true basis in finding just compensation, it should likewise determine what, in its opinion, was the true value

of the lands taken for water power purposes. The purpose of this, of course, was, and is, to eliminate the necessity of having to hold additional hearings, and take further testimony, in the event that the Court should determine that the findings of this Commission are erroneous. Consequently, what is hereafter set out is the opinion of the Commission as to the true value of these lands taken from Twin City, based upon their agricultural or wild forest land value. However, as has been hereinabove set
64 out, it has been the opinion of the Commission that just compensation requires the determination of value based upon potential water power value. At the various hearings before the Commission, numerous witnesses testified as to what, in their opinion, was the true market value of the lands of Twin City taken by plaintiff in these condemnation proceedings, based upon their agricultural or wild forest land valuation. All of these witnesses, testifying as to the land value, disassociated from potential water power value, were competent land evaluators, and the Commission was fully advised as to various land valuations by them.

The testimony of W. M. Henderson and of B. R. T. Todd, witnesses for Twin City, is fully set out on pages 356-397 and 398-421, respectively, of the Record. Testimony of witnesses for plaintiff, as to such land valuations, is contained as follows: that of Spencer R. Cooley, on Pages 786-875 of the Record; the testimony of Gould Barrett, at Pages 712-727 of the Record; the testimony of H. H. Bell, at Pages 876-888 of the Record; the testimony of Clark D. Honnold, at Pages 703-757 of the Record; the testimony of G. E. Ward, at Pages 889-905 of the Record; and the testimony of James M. Cox, at Pages 758-785 of the Record.

As will appear from the testimony of these various witnesses, their estimates as to land values varied greatly, the range being from Ten ($10.00) Dollars per acre to as much as One Hundred Fifty ($150.00) Dollars per acre, and the totals of the valuations which they placed upon the total lands owned by Twin City varied greatly.

After careful consideration of the testimony of these various witnesses, it is the opinion of the Commission that the land valuations for lands in Georgia given by the witness G. E. Ward are correct; that the land valuations given for lands in South Caro-
lina by the witness James J. Cox are correct; and that the
65 timber valuations given by the witness Clark D. Honnold are correct.

In addition, the Commission is of opinion that the value of these lands was increased by the assemblying of all the tracts comprising the holdings of Twin City into one large block of land, and that consideration should be given to the fact that the plaintiff acquired something more than 4500 acres of land in one block from Twin City. All the witnesses agreed that such consolidation

of lands under one ownership added to the value, but most witnesses had difficulty in specifying the amount by which such value was increased. However, the Commission is of opinion that such assemblying increased the value of each acre by Five ($5.00) Dollars, and this opinion is supported by the testimony of Gould Barrett, witness for plaintiff, who stated that, in his opinion, it was worth from Two ($2.00) Dollars to Five ($5.00) Dollars per acre to assemble the lands under one unified or single ownership (R. 726).

Consequently, in arriving at land valuation, this Commission has taken the valuations of witness Ward for the Georgia lands, the witness Cox for the South Carolina lands, has added thereto the timber valuations of the various tracts as valued by the witness Hopnold, and has added a value of Five ($5.00) Dollars per acre to these lands by reason of their having been collected and assembled into one unified ownership.

Of course, in computing land valuations, no consideration whatever was given to the so-called "flowage acres". Twin City did not have fee title to these acres, designated as "flowage acres"; and, if water power valuation is not the true basis for determining just compensation, then these flowage acres have no value whatsoever in the hands of Twin City.

Using the above basis for our findings, it is our opinion that the following agricultural and the following wild forest land valuations should be given to the lands owned by Twin City
66 at the times of the respective takings:

Georgia Lands:

Civil Action No. 432. Declaration of Taking Filed June 19, 1947.

Tract No.	Acreage	Land Valuation	Timber Valuation	Total
E-434	1064.47	$21,000.00	$2,314.00	$23,314.00
E-439	328.00	10,000.00	1,080.00	11,080.00
Value of assembling @ $5.00 per acre				$34,394.00
				6,962.35
Total Value				$41,356.35

Civil Action No. 521. Declaration of Taking Filed January 3, 1950.

Tract No.	Acreage	Land Valuation	Timber Valuation	Total
E-443	429.51	$11,500.00	$4,195.00	$15,695.00
E-446	128.03	2,350.00	419.00	2,769.00
E-457	24.26	500.00	79.50	579.50
E-498	3.20	85.00	22.00	107.00
G-600	247.06	5,000.00	897.00	5,897.00
Value of assemblying @ $5.00 per acre				$25,047.50
				4,160.30
Total Value				$29,207.80

Civil Action No. 537. Declaration of Taking Filed July 13, 1950.

Tract No.	Acreage	Land Valuation	Timber Valuation	Total
E-449	5.51	$110.00	$ None	$110.00
G-616	121.53	3,000.00	822.00	3,822.00
G-627	546.78	11,500.00	2,725.00	12,225.00
G-694	10.00	300.00	108.00	408.00
Value of assemblying @ $5.00 per acre				$16,565.00
				3,419.10
Total Value				19,984.10

Note: Allocation should be made of the values of Tracts Nos. E-446, E-457 and E-449, the heirs of the Blackwell Estate receiving 3/5 of the values of said tracts, and Twin City, receiving 2/5 of the values thereof.

South Carolina Lands:

Civil Action No. 786. Declaration of Taking Filed June 23, 1947.

Tract	Acreage	Land Valuation	Timber Valuation	Total
C-215	5.80	$ None	$ None	$ No value
Assemblying value @ $5.00 per acre				29.00
Total Value				$29.00

Civil Action No. 1033. Declaration of Taking Filed December 21, 1949.

Tract	Acreage	Land Valuation	Timber Valuation	Total
F-500	1033.00	$24,744.80	$8,184.80	$32,929.60
H-790	497.00	12,799.00	4,847.00	17,646.00
Value of assemblying @ $5.00 per acre				$50,575.60
				7,650.00
Total Value				$58,225.60

67 Civil Action No. 1073. Declaration of Taking Filed July 5, 1950.

Tract	Acreage	Land Valuation	Timber Valuation	Total
H-732	70.00	$1,257.60	$107.60	$1,364.00
F-541 (part)	5.00	100.00	200.00	300.00
Value of assemblying @ $5.00 per acre				$1,664.00
				375.00
Total Value				$2,039.00

Interest should be paid, at 7% in Georgia, from the respective Dates of Declarations of Taking, and at 6% in South Carolina, from the dates of the respective Declarations of Taking.

Therefore, if it be finally adjudged that the Commission was in error in determining that water power value was the true basis for determining the value of the property taken from Twin City by plaintiff in these actions, we respectfully recommend that the

Court do award judgment to Twin City in the amounts set out hereinabove, based upon the agricultural or wild forest land value of these properties.

However, as appears above, this Commission is of opinion that the Court should award judgments in favor of Twin City, to be paid to William P. Dauchy, Successor-Trustee, pursuant to stipulation of counsel for Twin City, based upon potential water power value hereinabove set out specifically and at some length.

All of which is respectfully recommended.

(S.) GEORGE BARRETT,
DAVID W. JOHNSON,
J. MEANS McFADDEN,
Commissioners.

May 14th, 1953.

IN UNITED STATES DISTRICT COURT
UNITED STATES

v.

3,928.09 ACRES OF LAND, ETC.

(114 F. Supp. 719)

DECREE CONFIRMING REPORT OF COMMISSIONERS—Filed August 26, 1953.

WYCHE, *Chief Judge.*

In its acquisition of land for its Clark Hill development on the Savannah River, the United States in Civil Actions 786, 68 1033, 1038 and 1073 instituted between June 25, 1947 and July 5, 1950 has taken all of the properties, with insignificant exceptions, of the respondent, Twin City Power Company, a South Carolina corporation. The Georgia properties of its wholly owned subsidiary, the Twin City Power Company of Georgia, have been taken by the United States in Civil Actions 432, 521 and 537 instituted between June 19, 1947 and July 13, 1950 in the Southern District of Georgia. For convenience these corporations are treated together as "Twin City."

The return of Twin City in each of the seven condemnation actions averred that its acquisition of these properties on both sides of the Savannah River was for the purpose of developing a unified site on which to generate and distribute hydro-electric energy, that the two corporations together had acquired all of the land necessary for the development of a 60 foot head with a dam at Price's Island, that the potential use of these properties for this purpose should

be considered in determining the market value of the properties; and asked that the several actions be consolidated for trial.

After the motions of the United States to strike these returns on the ground that they claimed consequential damages, anticipated profits and compensation based on adaptability for the development of hydro-electric power, had been overruled by this Court and by the District Court for the Southern District of Georgia, U.S. v. 1532.63 Acres of Land, 86 F. Supp. 467, the issues in the South Carolina actions so far as they affected Twin City were consolidated and referred to Commissioners pursuant to the provisions of sub-division (h) of Rule 71A of the Rules of Civil Procedure, 28 U.S.C.A. A similar order, referring the issues in the Georgia cases to the same Commissioners was filed in the
69 Southern District of Georgia. Each order authorized the Commissioners to hear the Georgia and South Carolina cases together.

The Commissioners held extended hearings and after mature consideration filed their Report with this Court and with the District Court for the Southern District of Georgia. The Commissioners found that the adaptability of these properties for use in the generation of hydro-electric energy was a factor entitled to consideration in determining their market value at the times of taking and fixed the just compensation to which the two Twin City corporations were entitled at a total figure of $1,257,033.20 which they allocated among the properties taken in the several civil actions on an acreage basis. (Report 65-67)

Objections filed by the United States and by Twin City, as provided in Rule 53(e) (2) bring the issues here for decision. Able and exhaustive written briefs have been filed by the attorneys for the parties on the questions presented by the objections to the Report of the Commissioners. For convenience oral arguments were heard jointly with Judge F. M. Scarlett of the Southern District of Georgia, who is filing his Decree disposing of the questions as they affect the lands involved in the Georgia actions.

The United States urges that the potential use of the Twin City lands by themselves or in combination with other lands for the production of hydro-electric energy because of their proximity to the Savannah River should not have been considered by the Commissioners in arriving at a value for these properties. (Objections I-VIII) This position poses the principal challenge to the Report.

Just compensation is usually measured by the market value of the property, taking into consideration all uses to which the property is presently devoted as well as other uses to which it may be
70 adapted in the reasonably near future. In arriving at a fair market value all reasonable uses of the property, if not remote or speculative must be taken in consideration.

The fact that the most profitable use of a tract of land can be made only in combination with other lands does not necessarily exclude that use from consideration if the possibility of combination is reasonably sufficient to affect its market value. U.S. v. 1532.63 Acres of Land, D.C., 86 F. Supp. 467, 472; United States ex rel. Tennessee Valley Authority v. Powelson, 319 U.S. 266, 275, 63 S. Ct. 1047, 87 L. Ed. 1390; Olson v. United States, 292 U.S. 246, 255, 54 S. Ct. 704, 78 L. Ed. 1236; Grand River Dam Authority v. Grand-Hydro, 335 U.S. 359, 69 S. Ct. 114, 93 L. Ed. 64.

The evidence in this case shows that Twin City owned some 4,500 acres in fee, together with flowage rights over additional acres. These lands extended for some eleven miles along both sides of the Savannah River from Price's Island to Chamberlain's Ferry, including all of the land for dam site and reservoir purposes except 170 acres which would be needed for dam with a 60 foot head at Price's Island, all of the land save 400 acres which would be needed for a dam with a 60 foot head and provision for a five foot surcharge, all of the land save 1,250 acres which would be needed for a 70 foot head with a five foot surcharge, all of the land save 2,800 acres which would be needed for an 80 foot head with a five foot surcharge.

These properties included an excellent dam site at Price's Island where the river narrows between rock spurs to some 900 feet with vertical rock foundations, with excellent clay soil particularly useful in the building of an earth dam. The absence of railroads, major highways, utilities and homes in the reservoir area above Price's Island minimized construction costs. Twin City owned in fee a strip of land for a railroad from the Price's Island dam site to the C. & W. C. Railroad at Modoc, S. C., over which
71 construction materials and electrical equipment could be economically transported. At the time of taking the Georgia Power Company's high tension transmission facilities running within five miles of the Price's Island site furnished an excellent vehicle for marketing power.

The Twin City properties were capable of development for hydro-electric purposes at various heads. Dams at Price's Island were economically feasible for use in connection with a 60', 70', 80', 90', and 100' head. The properties were also valuable for use with other property in developing a reservoir with a dam down stream from Price's Island. At the time of taking there was an ample and growing market for all of the energy which could be produced and at that time the power would have had a premium value for peaking purposes.

The drainage area of the Savannah River at Price's Island is 5,960 miles. For more than 99½% of the time the stream flow at

that point is 2,200 cubic feet per second and for 82% of the time 4000 cubic feet per second. This stream flow exceeds that of every hydro development in North Carolina, South Carolina and Georgia except those on the Savannah River at Stevens Creek and Clark Hill and on the Santee River at Pinopolis. (Report 45)

Studies by the engineers show that the development of energy by water at Price's Island would have been more economical than the development of a comparable amount of steam. The expert witnesses, including engineers placed on the stand by the Government, testified to the excellent potential of this property for hydro-electric purposes.

A comparison of this market value of the Twin City properties with the land cost of constructed projects on the basis of land cost per installed kilowatt and on the basis of the land cost to the annual output of kilowatt hours shows that the market value found
72 here is a conservative figure. The same result is obtained if a comparison with completed hydros is made on the basis of the percentage of land cost to the total cost of the project.

The Government's contention that a valuation of the Twin City properties should not include a consideration of their adaptability for water power purposes is based primarily on the testimony of the witness Russell Farley to the effect that after 1928 the Federal Power Commission would not have licensed a hydro-electric development with a dam at Price's Island because it considered that a better comprehensive plan for the development of the Savannah River basin between the backwater of the existing Stevens Creek plant and the confluence of the Seneca and the Tugaloo required a dam at Clark Hill some six miles down stream from Price's Island and that without such Federal Power Commission license Twin City could not have built this project. 16 U.S.C.A. §§ 803, 817. The fact that the Federal Power Commission might not have licensed the project for a dam at Price's Island does not determine the issue of whether the Twin City properties were adaptable for water power purposes within the reasonably near future. Olson v. United States, supra. By preferring a dam at another site the Power Commission merely said that the best development of Twin City properties is in combination with other properties for a higher dam and larger reservoir. The Federal Power Commission does not, by determining the location of a licensed project, pass upon the right of the landowner to have the power potential considered in ascertaining just compensation. Grand River Dam Authority v. Grand-Hydro, 335 U. S. 359, 69 S. Ct. 114, 93 L. Ed. 64. To construe Federal action otherwise would raise grave constitutional doubts.

This evidence offered by the United States establishes the fact

that the Twin City properties were adaptable for hydro
73 power use in conjunction with downstream and upstream properties. The repeated studies of this stretch of the Savannah by the Federal Power Commission and by the Army Engineers to determine its power potential from 1928 until condemnation proceedings were instituted and their conclusion that it was one of the best hydro-electric sites in the eastern part of the United States is a determination that these Twin City properties were at the times of taking adaptable for use in the generation of electrical energy.

All of the properties of Twin City and the entire eleven mile stretch of the Savannah River along which this land lay have been incorporated by the United States in its Clark Hill hydro development for water power purposes as its best and most valuable use. The testimony from both sides shows that during the entire period from 1901 to the date of taking Congress and all of the interested Federal agencies, without exception or dissent, considered that these properties of Twin City should be developed for water power, either by private interests or by the United States and either separately or in conjunction with other property.

The market value of any property is affected by the interest of the people in its purchase, because supply and demand are the economic levers of our free enterprise system. The Twin City properties have been considered for hydro purposes and almost solely for those purposes since 1901 when Twin City began to piece together all of this property for those purposes. Congress through six different statutes passed between 1900 and 1919 authorized the construction of hydro-electric projects at Price's Island or at some other point on the Twin City properties. South Carolina and Georgia chartered each of the Twin City companies for the purpose of constructing hydro-electric projects. The Secretary of
War and the Chief of Engineers in 1915 issued a permit to
74 Twin City for construction and approved its plans. The Price's Island site was considered for construction when the Stevens Creek dam was built in 1912 and again when the Government established its nitrate plant in 1916 at Muscle Shoals. The Government's witness Bell and his associate Jackson optioned the property for hydro development in 1917. The Federal Power Commission tendered a preliminary permit to Twin City in 1926.

In 1928 the Federal Power Commission granted a license to the Savannah River Electric Company to construct a ninety foot dam near Clark Hill which would have absorbed and incorporated the Twin City properties. At that time negotiations for the purchase of the Twin City properties were had. Again in 1946 the Savannah River Electric Company wished to acquire the Twin City properties but was unable to obtain a license from the Federal Power

Commission. From 1928 until the passage of the Flood Control Act in 1944 33 U.S.C.A. § 701-1 et seq. the Federal Government studied and restudied the river for development in the interest of navigation, flood control and the generation of electric energy.

At the time of the first taking (June 1947) the United States and the Savannah River Electric Company were both anxious to build the Clark Hill project. Because the United States prevailed by refusing to issue a license to the Savannah River Electric Company does not alter the fact that the Twin City properties were in demand by two prospective purchasers. Savannah River Electric Company v. Federal Power Commission, 4 Cir., 164 F. 2d 408.

Twin City offered three well qualified engineers, each with a wealth of experience in the design and construction of hydro-electric projects and in valuation of undeveloped power sites.

Taking into consideration all of the relevant facts sum-
75 marized herein and in the Report each arrived at a figure at which in his judgment a prudent, competent and well informed buyer, willing but not compelled to buy, would pay to an equally well informed, prudent and competent owner, willing but not compelled to sell, R. C. Johnson placed this figure at $1,500,000, William P. Creager at $1,600,000 and Neville Courtney at $1,900,000. The Commissioners made an award aggregating $1,257,033.20.

In fixing this award the Commissioners began with the Creager valuation of $1,600,000 and subtracted therefrom $343,966.80 representing a "hold-up" cost which Twin City would have to pay for 745.58 acres covered by flowage or option easements, which the Report found had been abandoned, and of which 112 acres would have been needed for the sixty foot development at Price's Island. Twin City asks that the award be increased because these easements had not been abandoned and even if they had been abandoned the deduction was excessive for the reasons detailed in its objections (9, 13).

In arriving at market value the respondents' witnesses recognized that the owners of the lands over which these easements existed would, because of the many years which had elapsed, insist on additional payments. The Report, construed in its entirety, is a finding that $1,257,033.20 is the fair market value of all of the Twin City holdings, taking into consideration all of the factors of value, including their potential use for hydro-electric purposes, as of the respective dates of taking and therefore the "just compensation" which the United States should pay. This finding is supported by the weight of the evidence and will not be distributed by this Court. Therefore, these objections (9, 13) of Twin City are overruled.

The United States (Objection VI) contends that flowage
76 easements, paid for by Twin City and covered by recorded warranty deeds and covering 154.5 acres in South Carolina

and 32 acres in Georgia, should be considered as abandoned because of the lapse of time between their respective dates and the dates of these proceedings. For the reasons given in the Report this objection is overruled.

Annie P. Robinson by her deed of Jan. 16 1907 conveyed 75 acres in fee to Twin City (Ex. 1; 148). At that time Mrs. Robinson owned some 2,600 acres in South Carolina, about 10 acres on the Georgia mainland and islands (Georgia) in the Savannah totalling 68 acres. The deed granted land known as the Searles land "being in the County of Edgefield" S. C.

> "on and along the easterly side of Savannah River and along Benefield and Westcoat Creeks and including Searles Island * * * and land on the Georgia side of the River * * * the line on the shore to run by and with the flood line and far enough back to include seventy-five acres hereby conveyed including said islands."

Twin City contends (Objections 1, 2) that forty of the acres conveyed in fee by this deed lie along the South Carolina side of the Savannah in Edgefield County. While the interpretation of this deed is not free from doubt, it is the Court's view that the Commissioners correctly concluded that all of this fee acreage lies in Georgia.

After finding the fair market value of all the Twin City properties, both in Georgia and in South Carolina, at $1,257,033.20 the Commissioners allocated this amount among the lands taken in each of the seven condemnation cases on an acreage basis. The United States takes the position (Objection V) that since the first taking in C. A. 432 on June 19, 1947, destroyed the unified character
77 of the Twin City holdings, any value attributable to the use of the unified site for power purposes must be awarded in C. A. 432 as severance damages to the other Twin City property.

It is true that where a part of a landowner's property is taken and the remainder damaged, severance damages are appropriate. But here all of the Twin City properties had been taken by the United States before trial was reached in C. A. 432. It was taken piecemeal for budgetary and administrative reasons but all pursuant to the general plan to create a large hydro-electric development as envisioned in the Flood Control Act of 1944. In such a situation severance damages are not appropriate. U. S. v. Miller, 317 U. S. 369, 63 S. Ct. 276, 87 L. Ed. 336. The Commissioners have reached a fair and permissible allocation by using an acreage basis.

Since the award to Twin City of $1,257,033.20 is not the value of its property for any particular purpose but represents its fair market value after considering all of the reasonable uses of the

property which were not too remote or speculative, this amount is the "just compensation" required by the Fifth Amendment and the applicable statutes. U. S. v. 1532.63 Acres of Land, 86 F. Supp. 467, 470. This is the amount that in all probability would have been arrived at by fair negotiations between an owner willing to sell and a purchaser desiring to buy. Olson v. United States, 292 U. S. 246, 257, 54 S. Ct. 704, 78 L. Ed. 1236; Kimball Laundry Co. v. U. S., 338 U. S. 1, 6, 69 S. Ct. 1434, 93 L. Ed. 1765.

The Report recognized that all values were included in this award but since the United States contended that the potential use of this property for water power should be excluded from consideration it was appropriate that the Commissioners find a value of the land based solely on its agricultural use. The Report fixed
78 this value for each tract. This valuation averaged $28 per acre to which $5 per acre was added for Twin City's assembling the property. In so doing the Commissioners accepted the Georgia valuations of G. E. Ward and the South Carolina valuations of James J. Cox. Twin City objects to these findings (Objections 10-14) because they ignored entirely the testimony of Twin City's admittedly "competent land evaluators" and instead accepted the testimony of two government witnesses whose experiences were limited to buying for their own accounts and whose opportunities for study of the lands were limited. The United States objected to this determination because it disagreed with the Report's treatment of the evidence of timber value. (Objection IX).

Since the determination of value has been made as indicated herein it is not appropriate that the Court find a value based entirely on its use for agricultural purposes. As they are not now material the Report's findings of agricultural value are neither approved nor disapproved.

At the instance of the United States the Commissioners gave written notice to all possible claimants of the hearings in Georgia and in South Carolina. (Record, Vol. I, pp. 23-30, Volume V, pp. 4-14). The only parties appearing as claimants other than the Twin City corporations and William P. Dauchy, the mortgagee of their properties, were (1) the heirs of Nettie Blackwell; (2) the Augusta Power Company; (3) L. T. Anderson and (4) Annie B. Robinson. The Report satisfactorily passes upon all of the issues raised by these claimants.

The just compensation to which Twin City Power Company is entitled for its property (part of Tract C-215) taken in Civil Action 786 is the sum of $1,548.72 with interest thereon at 6% from
79 June 23, 1947 to the date of the entry of judgment; for its property (Tracts F-500, H-700) taken in Civil Action 1033 the sum of $408,540.60 with interest thereon at 6% from Decem-

ber 21, 1949, to the date of entry of judgment; for its property (Tracts H-739, F-541 (part), F-525—flowage rights, F-564—flowage rights) taken in Civil Action 1073 the sum of $61,815.13 with interest at 6% from July 5, 1950, to the date of the entry of judgment.

In entering judgments for these amounts the Clerk of this Court will allow appropriate credits for any sums paid into Court by the United States in these actions for the Twin City properties.

Under a stipulation in the record payments under these judgments shall be made to William P. Dauchy, Successor-Trustee under the mortgage originally given to the Merchants Trust Company of New York, January 1, 1901 (Ex. 4).

After careful consideration of the exhaustive and well-prepared Report of the Commissioners, their Findings of Fact and Conclusions of Law, the testimony and evidence in the case, the oral and written briefs of attorneys for the parties, it is this Court's opinion, that the Report of the Commissioners, their Findings of Fact and Conclusions of Law as herein modified, should be confirmed and adopted by the Court, and

It Is So Ordered.

It Is Further Ordered, That judgments, as provided herein, be entered in Civil Actions 786, 1033 and 1073.

In United States District Court

ORDER OVERRULING MOTION TO AMEND FINDINGS AND TO ENTER A NEW JUDGMENT, ETC.; Filed November 14, 1953

These condemnation proceedings, so far as they affect the Twin City Power Company properties, are before the Court on the objections filed by the United States to the Decree of August 26,
80 1953, its motions for amended and additional findings and for the entry of a new decree or judgment. Because similar objections and motions were filed in companion cases pending in the Southern District of Georgia, Judge F. M. Scarlett of that Court sat with this Court to hear the oral presentation of counsel's argument on the motions.

After long and extended hearings, Commissioners, appointed by the two District Courts, found as a fact that the market value of the lands of the Twin City Power Company and of its wholly owned subsidiary, the Twin City Power Company of Georgia, which were taken by the United States, had been affected by the potential use of this property for hydro-electric purposes, that, such a use was not remote or speculative and that the properties could have been and actually had been converted to this use. The Report, therefore, found as just compensation a market value which reflected this potential.

The Commissioners' Report was fully argued before Judge Scarlett and me. Counsel presented elaborate briefs. After mature consideration, the finding of the Commissioners that the adaptability of the Twin City properties for use in the generation of electrical energy had enhanced the market value of the property, and therefore was entitled to consideration on the issue of "just compensation" was affirmed because it was my opinion that the findings of the Commissioners were supported by the great weight of the evidence. Since Judge Scarlett reached the same conclusion, similar decrees were filed.

The present motions question the correctness of these findings by the Commissioners and by the two Courts. In effect, the motions ask that Judge Scarlett and I reverse our previous findings, overrule the Commissioners and make a determination that the potential use of the Twin City lands for power purposes was, at
81 the time of taking, remote or speculative and therefore had not affected its market value. A careful review of the evidence convinces me that there is no error in the findings embodied in the respective decrees.

The properties of the two Twin City corporations taken by the United States in these actions and in those pending in the Southern District of Georgia, extend some eleven miles along both sides of the Savannah River from Price's Island to Chamberlain's Ferry embracing some forty-seven hundred acres. Along this distance the Savannah River has a sixty-foot fall and a stream flow exceeding that at most of the hydro developments in Georgia and the Carolinas. At Price's Island on the Twin City properties there was an excellent dam site between spurs with sound foundation rock and ideal clay available for construction purposes.

Twin City's ownership of a strip of land for a railroad siding to the C. & W. C. Railroad some two miles away, the proximity of nearby transmission facilities, the ownership of a reservoir area free of houses, bridges, railroads and highways were factors materially minimizing construction costs. At the time of taking, conditions were favorable for the marketing of power.

Dams at the Price's Island site were economically feasible for use in connection with a sixty, seventy, eighty, ninety or one hundred foot head. Twin City owned practically all the land needed for the sixty-foot development and therefore an integrated site for such a project. These properties embraced one of the best undeveloped hydro sites in the eastern part of the United States. This land was also useful for hydro-electric purposes in conjunction with up-stream and down-stream properties owned by others. The value of the Twin City lands would have been increased by
up-stream developments at Calhoun Falls and at Hartwell
82 which were under consideration at the time of taking.

These properties were under constant study for hydro-

electric development from the time of the first acquisition for this purpose by Twin City in 1901. It was authorized to build dams in the Savannah River under six Acts of Congress enacted between 1901 and 1919. The Secretary of War and the Chief of Engineers approved its plans, the Federal Power Commission tendered Twin City a preliminary permit in 1926, for a development at Price's Island. From 1928 to 1932, the Savannah River Electric Company held a Federal Power license to build at Clark Hill and to incorporate the Twin City properties into its development. From time to time other private interests were interested in acquiring these properties for river development. During the twenty-year period immediately preceding these condemnation proceedings the Army Engineers had this stretch of the Savannah under constant study in connection with both private and public hydro-electric development. Finally in 1944, Congress decided that the project should be built by the United States and the Federal Power Commission therefore refused to issue a license for its construction to the private applicant, the Savannah River Electric Company. Savannah River Electric v. Federal Power Com., 149 F. 2d 408.

These facts are largely undisputed. The great weight of the evidence supports the finding that this use for power purposes was so probably at the time of taking as to affect the market value of the property. The Government, having been attracted to the acquisition of this property because of its suitability for water power development, can hardly deny that the water power potential actually did affect its value in the market.

The amount of the award is supported by the preponder-
83 ance of the evidence. Three competent and well-qualified hydraulic engineers with large experience in this field, after fully considering all of the pertinent factors, testified that in their respective opinions a prudent, competent and well-informed buyer, willing but not compelled to buy, trading with an equally well-informed, competent and willing seller would have paid substantially more than the award for these properties. The Commissioners, evaluating all of the evidence, found that a figure less than these given in these opinions, was just compensation and the two Courts confirmed the aggregate of the awards in the companion decrees of August 26, 1953. On reconsideration I am convinced of the correctness of the findings in the decree.

The other questions raised by the motion have been satisfactorily disposed of in the decree heretofore filed.

It is my opinion that the objections should be overruled and the motions denied, and

It Is So Ordered.

My attention has been called to an error on page 13 of my decree of August 26, 1953, in which I erroneously designated Tract H 732

as Tract H 730. The Clerk will make an appropriate correction in the judgment.

C. C. WYCHE,
United States District Judge.

In United States District Court

JUDGMENT—December 1, 1953

Civil Action No. 786

The Issue of just compensation for the taking of the lands of Twin City Power Company in Tract No. C-215 in this action having been referred to a Board of Commissioners on December 31, 1951, and said Commissioners having filed their report recommending that Twin City Power Company be awarded the sum of One Thou-
84 sand Five Hundred Forty-Eight and 72/100 ($1,548.72) Dollars for the taking of said lands, and the Court having on August 26, 1953, entered its Decree directing that Judgment be entered in conformity with findings of the Commissioners, and the Court having on November 14, 1953, overruled the objections to said Decree filed by the United States of America, and denied its motion for a new Decree,

Judgment Is Hereby Entered in favor of Twin City Power Company and William P. Dauchy, its mortgagee, against the United States of America for the sum of One Thousand Five Hundred Forty Eight and 72/100 ($1,548.72) Dollars, with interest thereon at the rate of 6% per annum from June 23, 1947, to and including December 1, 1953.

Signed, Sealed and Entered this 1st day of December, 1953.

FRANK E. JORDAN, JR.,
Clerk, U. S. District Court.

In United States District Court

JUDGMENT—December 1, 1953

Civil Action No. 1033

The Issue of just compensation for the taking of the lands of Twin City Power Company in Tracts F-500 and H-700 in this action having been referred to a board of Commissioners on December 31, 1951, and said Commissioners having filed their report recommending that Twin City Power Company be awarded the sum of $108,540.60 for the taking of said lands, subject to a credit of $22,000.00 which was deposited in the Registry of the Court on December 21, 1949, as estimated compensation for the taking of said

lands, and which was on March 1, 1952, disbursed as a partial award for these lands, and the Court having on August 26, 85 1953, entered its Decree directing that Judgment be entered in conformity with the findings of the Commissioners, and having on November 14, 1953, overruled the objections to said Decree filed by the United States of America, and denied its motion for a new Decree.

Judgment Is Hereby Entered in favor of Twin City Power Company, and William P. Dauchy, its mortgagee, against the United States of America for the sum of Three Hundred Eighty Six Thousand, Five Hundred Forty and 60/100 ($386,540.60) Dollars, with interest thereon at the rate of 6% per annum from December 21, 1949 to and including December 1, 1953.

Signed, Sealed and Entered this 1st day of December, 1953.

FRANK E. JORDAN, JR.,
Clerk, U. S. District Court.

In United States District Court

JUDGMENT—December 23, 1953

Civil Action No. 1073

The issue of just compensation for the taking of the lands of Twin City Power Company in Tracts H-732, F-541 (parts), F-525 (flowage rights), and F-564 (flowage rights), having been referred to a Board of Commissioners on December 31, 1951, and the Commissioners having filed their Report recommending that Twin City Power Company be awarded the sum of Sixty-One Thousand Eight Hundred Fifteen & 13/100 ($61,815.13) Dollars for the taking of said lands and flowage rights, subject to a credit for any sums paid into Court by the United States for the Twin City properties in these tracts, and the United States having on July 5, 1950, deposited the sum of Two Hundred Ten & 08/100 ($210.08) Dollars for the taking of the interests of Twin City Power Company in Tract F-541, and the sum of Six Hundred Fifty & No/100 ($650.00) 86-89 Dollars for the taking of the interests of Twin City Power Company in Tract H-732, and the Court having on August 26, 1953, entered its Decree directing that Judgment be entered in conformity with the findings of the Commissioners, and having on November 14, 1953, overruled the objections to said Decree filed by the United States of America, and denied its motion for a new Decree.

Judgment Is Hereby Entered in favor of Twin City Power Company and William P. Dauchy, its mortgagee, against the United States of America for the sum of Sixty Thousand Nine Hundred Fifty-Five & 05/100 ($60,955.05) Dollars, with interest thereon

at the rate of six (6%) per cent per annum from July 5, 1950 to and including December 23, 1953.

Signed, Sealed and Entered this 23rd day of December, 1953.

FRANK E. JORDAN, JR.,
Clerk.

90 In United States District Court.

TRANSCRIPT OF TESTIMONY—April 8, 1952

Dr. STEPHEN TABER, sworn as a witness for the Twin City Power Company, testified as follows:

DIRECT EXAMINATION.

By Mr. ROBINSON:

Q. Dr. Taber, where is your home?

A. Columbia, South Carolina.

Q. Will you give us briefly your education?

91 A. I received an A. B. Degree in Geology and Mining at Stanford University, took some graduate work there, and got my Doctor's Degree at the University of Virginia in geology.

Q. What has been your profession during your adult life, Doctor?

A. As a teacher of geology at the University of South Carolina, and previously at the University of Virginia, and as a Research and Consulting Geologist while I was at the University of South Carolina. During my period at the University I refused to teach during the summer vacations, reserving that time for consulting and research work in geology, and since I retired from the University about five years ago I have been giving my time entirely to research and consulting work.

Mr. MILLER: I will admit that the Doctor is an expert in geology.

Q. When did you come to the Univrsty of South Carolina Doctor?

A. In 1912.

Q. Do you belong to any Scientific Societies?

A. Yes, I belong to the Geological Society of America, The English Geological Society, The Geological Society of France and the Seismological Society of America.

Q. Doctor, have you published any works?

A. Something over a 100 books and papers dealing with geology and related subjects.

Q. Now, among your works, have you had any jobs in Engineering Geology?

A. Yes, sir; several of them.

Q. Mention some, please.

A. I carried out some research work on freezing and thawing of soils with reference to destruction of highway pavements for the U.S. Bureau of Public Roads. Later, as a result of that work, I was sent to Alaska by the U.S. Geological Survey to study and report on frozen ground conditions, and I was geologist for the Cuban Government on dam and reservoir sites and also along the aqueduct in Santiago, Cuba. I was consulting Geologist with the South Carolina Public Service Authority when they were preparing for the Santee-Cooper Project and when construction work was started I was taken over by the Harza Engineering Company as their consulting geologist.

92

Q. On this same project?

A. Yes, this same project. I was consulting geologist for Marion Flood on the High Point Project on the Yadkin River in North Carolina. I also served as consulting geologist for many of the towns in South Carolina in obtaining water supply for the towns.

Q. Doctor, since you came to the South Carolina University to teach have you been familiar with the geology in connection with all the hydro-developments in South Carolina since that time?

A. I think I have visited all of the larger projects in connection with the research I was doing; if I was not consultant on the project, and obtained copies of their logs of bore holes and other geological information.

Q. Have you also done work with the South Carolina Highway Department in connection with its bridge construction?

A. Well, I have been in the bulk-heads put down in the river. I think all of the bridges across the larger rivers that have been put in in recent years to examine the bed rocks and beds of the stream.

Q. How is that?

A. To examine the rocks and beds of the streams.

Q. At my request, Doctor, did you visit the area of the Price's Island Dam Site on the Savannah River?

A. I did. I had been in that general area previously when I was consulting geologist for the Harza Engineering Company. Mr. Harza was considering bidding on the Clark Hill Dam, and he got me to go in there and make an investigation of that site for him, and I have been in this area for railroad companies.

Q. And you had access to the borings at Clark's Hill?

A. Yes.

Q. What is the geology at the Price's Island site on the Savannah River, Doctor?

A. The rock in that area consists chiefly of slate, rather hard

slate, and the slate in places grades into a siliceous quartsite
93 and those rocks are cut in places by dikes and granite.

Now, the slate stands practically vertical with a stripe transversed to the course of the river.

Q. Let me see if I understand you, Doctor? That means that the slate is, more or less, perpendicular to the run of the river?

A. Perpendicular to the surface and perpendicular to the run of the river, the banks of the river.

Q. From the view point of foundation, is that the most advantageous way for the rock to lie?

A. For slate, it is. Now, of course, the quartsite and the granite dikes are a little more resistant to erosions of the river than the slate, for that reason, they form ledges in the river, causing rapids and shoals and they tend to form the spurs that extend down toward the river from the divide on either side, giving narrows in the valley at those points and that is the explanation of the relatively narrowness of the valley at the point of the dam site.

* * * * * * *

Q. Doctor, in your opinion, are the rocks at the dam site at the Price's Island Dam Site, suitable for the construction of a dam and spillway and power house?

A. Yes, sir.

Q. Have you any hesitation in advising the buyer that it is reasonably satisfactory for that purpose?

A. No, no hesitation.

Q. What do you say about the soil in the vicinity of the Price Island Dam Site with reference to its usability for an earth dam?

A. There is plenty of soil in the vicinity that could be used in the construction of an earth dam. The slate, in weathering, where it is completely weathered it forms a soil running fairly high in clay which could be used in making the core of the dam impermeable, and where the slate has weathered less it is much less permeable and could be used for the outer portions of the dam, if they wanted to construct an earth dam in that way, not using the material as it comes.

94 Q. What, in your opinion, is the best material out of which to build a dam at that site?

A. My own recommendation is that an earth dam be the type of construction because with the modern methods that have been developed in recent years in handling earth it should be cheaper, and from my experience an earth dam will better resist earthquake shocks and probably last longer than a concrete dam. It doesn't weather like concrete does.

Q. Doctor, would you say that site was suitable for a dam anywhere from 60 to 100 feet in height?

A. Yes.

Mr. ROBINSON: The witness is with you, Mr. Miller.

CROSS-EXAMINATION

By Mr. MILLER:

Q. Doctor, the geology, the general geological feature; that you have described here, is that not more or less generally true up and down the river in the vicinity of Price's Island both upstream and downstream?

A. Yes, it varies somewhat from place to place. For example, down at the Clark Hill Dam the country seems to be entirely of granite and granite gneiss. We have granite dikes up in this area but not the amount of granite they have down at Clark Hill.

* * * * * * *

Mr. GEORGE E. O'CONNOR, sworn for the Twin City Power Company, testified as follows:

DIRECT EXAMINATION.

By Mr. ROBINSON:

Q. Mr. O'Connor, what is your residence at this time?

A. Waterford, New York.

Q. What is your position with Twin City Power Company?

A. I have been President of each of those companies since 1938, when my father died.

Q. Is all the stock of the Twin City Power Company and all the bonds of that company owned by you or other members of your family?

95 A. Yes.

Q. Do the Twin City Power Company own all the stock of the Twin City Power Company of Georgia?

A. It does.

Q. Are all the property interests of those two Twin City Power Companies mortgaged?

A. Yes, the mortgage was placed, I believe, in 1901, for a million dollars to the Merchants Trust Company of New York.

Q. What individual is now Trustee under the terms of that mortgage?

Mr. MILLER: I think that is all a matter of record.

The WITNESS: William P. Dauchy, of New York.

Q. Mr. O'Connor, was your father an original incorporator of the Twin City Power Company?

A. No, he came in to it in 1906.

Q. And I believe the record shows that the Company was actually chartered on August 7, 1900?

A. The acquisition of land started in 1900, in the spring of 1900, and the South Carolina Corporation was incorporated in 1900, and I think the Georgia Corporation was incorporated in 1901, and the Act of the South Carolina Legislature was in 1901, and the first Act of Congress was in 1901.

Q. Mr. O'Connor, will you briefly trace the history of the Twin City Power Company and the Twin City Power Company of Georgia covering the particular efforts to develop this water power?

A. My father's first contact was in 1906, and at that time they were still acquiring land. They had, during the period from then until 1911, had a number of engineering surveys of the property. One was by Professor William Burr, who was in the Columbia University. He was on the Panama Canal Commission and a very prominent Engineer. There was also one by Billesby & Company of Chicago, and there were several other engineering surveys.

The railroad track was built from Modock, South Carolina, into the dam site, I believe, in 1909 or 1910, and various efforts were made at that time to get the money to develop the property.

96 I know that my father went to England and presented a proposition to Sperling & Company.

At that time the English had money that they sent this way, and they sent over one James Mitchell, who was an English Engineer, and he made a very complete survey. He spent several months down here, and he made a very favorable report on the project to Sperling & Company. He afterwards came back and I think he became identified with the Alabama Power Company.

Q. That was Mr. Mitchell?

A. Yes, sir, and Sperling. That's my recollection.

Q. Is he the Mitchell that the Mitchell Dam on the Alabama Power Company system is named?

A. I am not sure, but that is my impression that he was the same man. About that time the J. G. White Company built the Stephens Dam, a relatively small installation.

Q. That is on the Savannah River just upstream from Augusta?

A. Yes, Augusta. They took the cream of the market at that moment, and for several years the demand for power in the Twin City site wasn't large enough to justify development.

Q. All right, go ahead.

A. The next thing that happened was in 1915 or 1916, when the government brought up the proposition of a nitrate plant. Mr. Logless, who was then the publisher of the Augusta Chronicle,

and a number of other people here, started a promotion in trying to get Congress to accept Twin City as the Nitrate plant. They made a great deal of progress for a while but finally the government decided on Muscle Shoals.

Q. On the Tennessee River?

A. Yes, and the Nitrate plant was put there. Then after the War——

Q. —after the First World War?

A. That's right. The Federal Power Act was passed and that became effective in 1920 and our permit lasted until 1922.

Q. Your permit, that is, under the Act of Congress?

97 A. Under the last Act of Congress. That was in 1919. The Federal Power Act of 1920 eliminated any further special Act. So we made an application in 1926, I believe it was, for a license under that Act. At the same time we had a number of requests for prices on the property from different investment houses in New York. Finally we had a meeting with a Mr. F. P. Cumming, Vice President of the Southeastern Power & Light Company. At that time I believe the Savannah River Electric Company had not been organized, at least it wasn't mentioned at that time, and Mr. Cumming at that time was with the Southeastern. Later the same parties appeared in the Savannah River Electric Company. My father, brother and I had a meeting in his office in New York; and he said they were planning a large development on the Savannah River below our site, and that they were interested in acquiring our property and wanted to know what price we wanted.

Mr. MILLER: May I interrupt right here: I am not objecting to this, although we contend that it is immaterial, but I would like to have the witness instructed that under the rulings of the Fourth Circuit and the Fifth Circuit that all offers or unaccepted offers; and also under the rulings of the United States Supreme Court, that unaccepted offers or prices they may have been offered for this site, or offers that they may have made, is not competent as evidence and not to mention those.

Mr. ROBINSON: We will not go into it, if counsel do not wish.

Q. Mr. O'Connor, I believe you have just told us that shortly after your application to the Federal Power Commission for a preliminary permit in 1926 you did have an inquiry for the property from the Southeastern Power & Light Company?

A. Yes.

Q. And later from the same gentlemen representing the Savannah River & Electric Company?

A. It wasn't the same gentlemen. That was the only time I talked with Cummings. Afterwards it was turned over to other

people down here and I didn't have any other—well I think it was handled by Judge Callaway.

98 Q. Judge Callaway was a member of the Augusta Bar and he represented the Twin City Power Company up to the time of his death?

A. Yes. We turned down our permit on the ground that the Federal Power Act was unconstitutional, and at that time a great many people thought that it would be held unconstitutional, but in the matter of months after we turned it down the Savannah River Electric Company was incorporated, and they got a license about a year later from the Federal Power Commission. I think that was in about 1928, and in about 1928 or 1929 they started condemnation proceedings against all of our property—

Q. They started condemnation against your South Carolina property, did they not?

A. My recollection is it covered everything, but that may not be correct.

Q. In any event you had some litigation with the Savannah River Electric Company about condemnation of some or all of your property?

A. That's right. The litigation lasted until about 1931 or 1932, and at that time the depression came on and the entire Savannah River Electric Company proposition was dropped. * * * Then in 1936 the government began to take an interest in it. I believe the people in Augusta at that time were again promoting the idea of a development by the government of the Clark Hill site. During the thirties there were practically no activities in hydro-electric development, although we had the matter up, it seems to me, at least once a month by somebody that was interested or we thought might be interested, but there were very little activities during the thirties due to financial conditions, and then the War came on. After the War the government became more active and the Savannah River Electric Company became more active and again the Savannah River Electric Company wanted to know if we would sell the property and we told them that we would be glad to if we could agree on the price.

Q. Now, what year was that, approximately, Mr. O'Connor, can you tell me?

A. That was after the War, in 1946 or 1947.

99 Q. Was that at the time the Savannah River Electric Company was attempting to obtain a Federal Power Commission license?

A. Yes.

* * * * * *

Q. Now, Mr. O'Connor, as I understand it, and I want to make this clear, these several condemnation proceedings by the government will take all of the Twin City Holdings with, I believe, two minor exceptions, one about ten acres of land, which the Twin City Power Company of Georgia owns jointly with the Blackwell family, and possibly some portion of the railroad strip near the C. & W. C. at Modock, and possibly some portion of the transmission system?

A. Yes, sir.

Q. And they were not also going to take your substation in North Augusta?

A. I neglected to say that sub-station was acquired after my father got into it. He bought the land and surveyed it and bought the site of the sub-station in North Augusta.

Q. Now, that transmission line went from what place to what place?

A. It went from Price's Island, near Modock, to near Augusta, about twenty miles.

Q. On the South Carolina side?

A. That's right.

Q. And your railroad went from what place?

A. That went two and one-tenth miles from the Modock, South Carolina, station, and the Charleston Western Carolina Railroad to the dam site, right out on a spur—I mean a spur of land.

Q. Mr. O'Connor, what was the purpose of the Twin City Power Company and the Twin City Power Company of Georgia in acquiring this land?

A. It was all done with the intention of developing water power. At first they contemplated two developments. One about the middle of the land, and they eventually narrowed it down to one at Price's Island.

Q. Did the Price's Island Project at one time have any Federal approval for construction?

100 A. Well, it had Acts of Congress, six or seven of them, from 1900 to 1922, when the last one expired, and under one of those Acts, one or two of them—well, first, the Army Engineers in 1909 approved preliminary plans of the dam and finally after more complete study of the entire situation they gave us formal approval by the Secretary of War and Chief of Engineers. That was in 1915, and that was after a very complete study of the river and considerable testimony.

Q. That's Exhibits 10 and 11. Was that the time Colonel Kingman made this map which is Exhibit 13?

A. It was made under his supervision. I think some one else actually made it, but he was Chief of Engineers.

Q. I am not sure whether you gave us the name of the Engineer.

ing firm that had been employed by Twin City Power Company to investigate the feasibility of this site?

A. I named all I can remember except Ambursen Hydraulic Construction Company. They were in on the proposition for 15 or 20 years.

Q. It was their plans and specifications that the Chief of Engineers and Secretary of War approved in Exhibit No. 11?

A. Yes.

Q. We have an Exhibit made by Charles J. Weaver, was he one of those that were in on the investigation?

A. Yes. He made one at a later date. That was more or less a modernization of the Ambursen and Burr Reports.

Q. Now, Mr. O'Connor, is there anything that I have omitted about the history of this development, or efforts to develop, that you would like to add to the record?

A. It is a very long story, and probably a lot omitted, but I don't know how to select out of the entire history that may be important, but it was a long period of years in which a great many things were done. There were many efforts to get this proposition developed.

Q. I forgot to ask you about one interest. During the time the Twin City Power Company was working on this site, did the Middleton Augusta Power Company interest acquire ownership anywhere near this property?

101 A. Yes, that was a little before my time, but they acquired two dam sites down the river below us, and there was a good deal of conflicts at that time. There was a lot of competition in buying some of these properties in our area. I can't testify to that from my own knowledge, but I know it was highly competitive at that time.

Q. Had they built their project they would have flooded out the Twin City Price's Island dam site as I understand?

A. Yes, sir.

Mr. ROBINSON: The witness is with you.

CROSS EXAMINATION.

By Mr. MILLER:

A. No, because the Savannah River Electric Company immediately organized and made an application to the Federal Power Commission to develop the Savannah River at this point; and they had already talked to us about acquiring property before we gave up the license.

Q. As a matter of fact, the Savannah River Electric Company

filed an application for a license for a dam near Clark Hill, Project No. 798, on November 5, 1926?

A. I don't remember the exact date it was filed.

Q. Would it have flooded out your Price's Island site?

A. They had to get our property to make the development they proposed. The first thing they proposed was a 90 foot dam, and it may have gone to a 100.

Q. Well, at any rate, I think it was an elevation of 280, which would correspond to your elevation of 283. It would have flooded out your property at Price's Island?

A. It would have taken all of our property.

Q. Whether it would have taken all of it or not, it would have flooded out the dam site and taken the principal part of it?

A. That's right.

Commissioner BARRETT: I have a question here in several parts. I think it is pertinent and I want to ask it. It is in several parts and you may be able to answer it all in one answer or you
102 may not care to answer at all. My question is: How was this land acquired? Was it acquired by option, and about how many owners did you have to contact to acquire the acreage you did acquire, and did your company clear the title on all of this land which you obtained, and subsequently when the government came in and took it over was the government in position to take advantage of what had been done from the standpoint of assembling this land, and were they able to deal with just one owner rather than going out and contacting and dealing with a number of owners?

The WITNESS: Yes, sir. I believe about 60 deeds, and many of the properties had multiple ownership; that is, sometime there were four or five owners of the same property. The purchase of the property covered some ten or eleven years, and there was a great deal of trading done up and down the valley. The titles all had to be checked, and we assembled all of this property into what we called a complete unified piece of property extending eleven miles along that river valley. It was a very long and expensive job.

Commissioner MCFADDEN: Mr. O'Connor, I would like to ask you two or three questions, and see if I can straighten myself out a little. Has the Twin City Power Company, and the Twin City Power Company of Georgia ever definitely gotten to the point where they had started an organization to construct a hydro-electric plant there at Price's Island?

The WITNESS: We had plans and specifications and contract with the Ambursen Company for the construction of the dam, and

that was over a period of twenty years, and that was kept up to date, the price on it, and they were prepared to proceed with the construction in thirty days because they had complete plans and specifications approved by the War Department and they had prices and quantities and they were prepared to go ahead at anytime.

Commissioner McFADDEN: Now that was, as I understand, about the years 1915 to 1920?

103 The WITNESS: Well, they gave me a complete proposition as late as 1948.

Commissioner McFADDEN: As late as 1948?

The WITNESS: Yes, sir.

Commissioner McFADDEN: What plans of any definiteness did you have toward starting the development of such thing as late as 1948, other than getting the prices?

The WITNESS: Well, at that time the question was what it would cost to build a dam in connection with the Savannah River Electric. They requested to purchase and taken out a license, and we had no direct plans at that time of building ourselves, but Ambursen had at various times offered or revised and brought their proposal up to date and by asking them they could give us, in a few days the correct cost of construction of the dam on plans that they had already prepared and we never actually proceeded because we never had the money to go ahead with construction.

Commissioner McFADDEN: Now, I want to ask you this: As late as 1948 were you negotiating with the Savannah River Electric Company for sale of this property?

The WITNESS: Not 1948—well, it was the time they were making a second application for a license in 1946 or 1947. Anyway, it was just before the condemnation proceedings was started by the Government.

Commissioner McFADDEN: So the most concrete use that you had in mind for this—I am taking the entire holdings as one holding; was the sale to the Savannah River Electric Company? That was last one you had in mind?

The WITNESS: That's right.

Commissioner McFADDEN: What broke up that proposal?

The WITNESS: Well, the courts held that the Savannah River Electric Company were not entitled to a license because the government had decided to go ahead with Clark Hill Dam.

The WITNESS: Well, it was in connection with their last application. As a matter of fact, I didn't handle those ne-

104 gotiations directly myself. Mr. Robinson handled them down here with the Savannah River Electric people.

Commissioner McFADDEN: Was that since World War Two?

The WITNESS: Oh, yes.

Commissioner McFADDEN: Now, I don't want you to name any definite figures, but did those negotiations progress to a point where any prices were quoted? Don't name any price, but did they progress to a point where any prices were quoted?

The WITNESS: I understood from Mr. Robinson that they did.

Mr. MILLER: Well, we object to that.

Commissioner McFADDEN: I understand that.

Q. Mr. O'Conner, is the Twin City Power Company or the Twin City Power Company of Georgia, in acquiring this land acquired—I will put it this way: Did the Twin City Power Company, or the Twin City Power Company of Georgia acquire this land all by purchase or did it acquire any by condemnation?

A. It was all acquired by negotiations and private purchases.

Mr. WILLIAM P. CREAGER, sworn for the Twin City Power Company, testified as follows:

DIRECT EXAMINATION.

By Mr. ROBINSON:

Q. Mr. Creager, for the record, will you give us your name and present address?

A. My name is William Pitcher Creager, and I reside at Buffalo, New York.

Q. And your present age, Dr. Creager?

A. 73 years old.

Q. What is your occupation?

A. Consulting Hydraulic Engineer.

Q. What has been your education?

A. I was graduated from Rensselaer Polytechnic Institute in 1901, with the degree of Civil Engineer.

105 Q. Do you have any honorary degrees?

A. Yes, the Rensselaer Polytechnic Institute gave me an honorary degree of Doctor of Engineering. It also elected me a member of the honorary society of the Sigma Xi.

Q. Are you also a member of the American Society of Civil Engineers?

A. Yes, sir.

Q. You are an honorary member of that organization?

A. Yes, sir.

Q. What has been your engineering experience?

A. Fifty-two years as a hydraulic engineer.

Q. Will you give us some of the details?

A. For about three years I was in the Philippine Islands in an engineering capacity mostly in conjunction with control of river and other work.

For two years I was with the New York State Barge Canal on design of locks and dams.

For sixteen years, I was with the J. G. White Engineering Corporation of New York City on designs and valuations of hydro-electric projects. I started out as Designer to the Chief Engineer of Hydraulic Structures.

For eight years I was Vice President and Chief Engineer of the Power Corporation of New York and the Northern New York Utilities, located in Watertown, New York, now a part of the Niagara Mohawk Power Corporation, where I was in charge of engineering and construction of hydro-electric power plants and the valuation of hydro-electric power plants and storage reservoir sites.

For the past twenty-two years I have been consulting—hydraulic engineer on designs, construction and valuations of hydraulic properties.

Q. Tell us briefly what has been the nature of your experience.

A. I have worked on 132 dams. I have designed 36 of them; constructed 10 of them; consultation on design 96; consultation on construction 30.

With regard to hydro-electric power developments, I have designed 36 of them; constructed 14; consultation on design or construction 20, and reports on valuation 162.

106 I have been consultant on 58 flood control projects.

Q. In how many of our states, Dr. Creager, have your works carried you? In how many different states have you been engaged in this work?

A. It has carried me into 35 states.

Q. And into how many foreign countries?

A. Into 33 foreign countries.

Q. And you stated, I believe, that you had made 162 reports on valuations. Will you describe for us the nature of these valuations?

A. Yes, sir; All of these valuations included studies of water supply, cost of development, if not already developed, power available, transmission, market for power and all other pertinent items. They were, however, of several different types.

1. Valuations for land owners, to report on the value of their lands as water power sites.

2. Valuations for bankers, to report on the value of water power sites offered for sale.

3. Value of properties of one company taken over by another.

4. Studies to determine relative value of several owned sites to supply growing markets.

5. Valuation for tax purposes.

6. Valuations for rate making.

The first three of these items, namely, valuations for land owners, bankers and power companies, predominated in my experience and covered the entire subject including recommended reasonable purchase price.

Q. Were any of these properties purchased at the price which you recommended?

A. Yes, sir, about a ½ of them, I should say.

Q. Have you ever testified before in technical cases, Doctor?

A. Yes.

Q. How many times?

A. 22 times.

Q. Did any of these cases have to do with hydro-electric sites?

A. They did.

107 Q. Will you tell us some of them?

A. *Land Owners v. U.S. Government* on value of site of the Grand Coulee Dam.

Southern States Power Company v. TVA on value of properties on Hiwassee River.

Tennessee Electric Company and others. I believe they called this "*Eighteen Companies*" *v. TVA* on the general TVA situation.

Niagara Falls Park and *River Railway Company v. Canadian Government*—Value of hydro-electric plant at Niagara Falls.

Grand River Hydro, in Oklahoma, *v. Grand River Dam Authority*—Valuation of site.

Montana Power Company v. Irrigation Users—Water rights and value of developments to community.

Rondout Paper Company v. City of New York. Value of site destroyed.

Q. Name some of the valuations you made on hydro-electric cases, on which you were engaged, and which were settled before going to trial.

A. *T.V.A. v. Hiwassee-Nolichucky Power Company; Daniels Company v. City of Baltimore; Georgia Power Company v. U. S. Government*—I believe that is all.

Q. Will you give us the names of some of your representative clients during your 22 years of consulting practice?

A. The Niagara Mohawk Power Corporation; The Aluminum

Company of America; The Tennessee Valley Authority; Office of Production Management; Chief of Engineers, U. S. Army and a number of his district and division engineers; Los Angeles County Flood Control District; Ebasco Services, New York City; Governments of Mexico, Russia, Turkey and Portugal, and a large number of public utilities.

Q. Are you engaged as consultant on the St. Lawrence project and the New Niagara Falls Project?

A. Yes, sir.

Q. Have you been the author of any books on engineering?

A. Yes, sir.

108 Q. Tell us about them.

A. Author or co-author of three engineering books on hydro-electric developments and dams, and contributor of chapters on those subjects for seven others.

Q. Have you written any engineering articles?

A. Yes, sir; I have written a very large number of articles for engineering magazines and papers for engineering societies.

Q. Of what national engineering societies are you a member?

A. American Society of Civil Engineers; American Institute of Consulting Engineers; American Geophysical Union; International Association for Hydraulic Research; International Association for Soil Mechanics Research; International Committee on Large Dams.

Q. Have you been active in any of these societies?

A. Yes, sir.

Q. All right, give us that.

A. Principally in the American Society of Civil Engineers. For 10 years I have been a member of the Executive Committee of the Power Division and Chairman for three years. For six years I was a member of the Executive Committee of the Soil Mechanics and Foundation Division. I have been a chairman or member of a number of Committees for the National Society, including at present the Committee on Valuation of Power Plants, Design of Dams, and etc.

Q. Doctor Creager, are you listed in any of the "Who's Who"?

A. Yes, 13 of them.

Q. Are you familiar with the power situation in this part of the United States?

A. Yes, sir.

Q. Have you ever done any work on hydro-electric plants in this part of the country?

A. Yes, sir.

Q. Will you name some of them?

A. Consultation on Glenville, North Carolina; Consultation

on Nantahala, North Carolina; Consultation on Fontana Project, North Carolina; Design of Ocoee No. 1; Design of
109 Ocoee No. 2; Design of Macon, Georgia; Design of Stevens Creek, near Augusta, Georgia; Design of the Parr Shoals, near Parr, South Carolina; Design of Great Falls, near Rock Island, Tennessee; Valuation of Coosa River Project in Alabama; Valuation of Roanoke project in North Carolina; Valuation of Congaree project in South Carolina; Valuation of Saluda River Project in South Carolina; Valuation of Dial Project in Tennessee; Valuation of Powelson Project in North Carolina; and Valuation of Appalachian Project in North Carolina.

Q. Now, Doctor, getting down to the case at hand; are you familiar with the lands lying in the bed and on both sides of the Savannah River, required for an economic development of hydro-electric power on that river, with a dam and powerhouse located near Price's Island?

A. Yes, I studied the map that you presented for identification.

Q. Are you familiar with the lands of the Twin City Power Company in this action?

A. Yes. They are also shown on those exhibits.

Q. Have these lands a peculiar adaptability for water power development?

A. Yes.

Q. Are you familiar with the lands not owned by the Twin City Power Company in this action, which are also required for such development?

A. Yes, sir. They are also shown on those Exhibits.

* * * * *

Q. Dr. Creager, have you an opinion satisfactory to yourself as to the fair market value of the lands of the Twin City Power Company required for the development of water power at Price's Island as of June 19th or June 23, 1947, prior to the condemnation proceedings, if sold by one who was willing but not compelled to sell and bought by one who was willing to buy but not compelled to buy?

Commissioner McFADDEN: Subject to the objection, go ahead and answer the question.

A. I have made an opinion, based upon studies of my own, on testimony which is in, and which I understand will be placed in evidence, and on information that I have received
110 from those received from others which I consider reliable.

Mr. MILLER: Just a minute; we renew our objections as to value coming out, on all grounds, and we think before the value comes out now that the witness should state and we should have

the matters he considered and what he based this opinon on, the facts he received and other information from various and sundry sources. We think, before the value comes out, that we should have the sources and data that he considered.

Commissioner McFADDEN: We have ruled that he may go ahead and answer the question and we will get to his basis and data later.

Q. What, in your opinion, was that fair market value?

A. $1,600,000.00.

Q. Does this value represent the value of all of the Twin City lands?

A. No, sir.

By Mr. ROBINSON:

Q. Dr. Creager, when we recessed last evening, I believe you had just given us your opinion of the fair market value of the Twin City Holdings at a $1,600,000.00?

A. Yes, sir.

Q. In your studies of the value of the Twin City properties for power purposes, did you collaborate with other engineers in your studies?

A. Yes, sir.

Q. Whom?

A. Mr. Johnson and Mr. Courtney.

Q. Both of whom are expected to testify in this case?

A. I understand so.

Q. Now, did each of you do a portion of the work that makes up the study of it?

A. Part of it. Each of us did a portion of it, and the rest of it we collaborated.

Q. Did the portion of the work done by Mr. Johnson and Mr. Courtney you check yourself?

A. I checked it, not absolutely to the last figure, but I looked it over and it appeared very reasonable.

111 Q. Now, Mr. Creager, in arriving at this fair market value of the Twin City Lands being taken by the government, required for the development at this site, what factors did you take into consideration?

Mr. MILLER: May it please your Honors; I want it understood that I am not going to make any objection at this time to any of this, but I would like to have it understood that all grounds of my objection may be reserved and made at the end of the direct examination.

Mr. ROBINSON: That is entirely satisfactory unless it is with

reference to the form of the question, or something of that character, which I could cure at the time.

Q. Go ahead, Mr. Creager.

A. When a piece of useful property is taken away from the owner he has lost something of value, and he should receive adequate compensation. This value can be measured in several ways. The most prominent being by his fair market value. The legal definition of the fair market value of the property, as I understand, and as I use it, is the price which a prudent, competent and well informed buyer, who is willing, but not compelled to buy, would pay to a prudent, competent and well informed owner, who is willing, but not compelled to sell, both the buyer and the seller would take into consideration all the attendant and surrounding conditions and circumstances which affect the market value. These attendant and surrounding conditions and circumstances involve various factors. Never precisely alike in different cases. They very often cannot be reduced precisely to dollars and cents, but their effect is reflected in prices which had been paid under similar conditions for such properties.

Lands having a peculiar adaptability for water power use are of the nature of real estate and ultimately the fair market is necessarily determined by judgment on the part of the experienced and competent valuator, taking into account his past experience, and all the facts and factors affecting the particular property undergoing valuation.

Among the attendant and surrounding conditions and circumstances, which affect the fair market value of the respond-
112 ent's properties, which have a peculiar adaptability for water power are:

1. Power and energy available at site.

2. Required capital outlay for the hydro installation, exclusive of the price paid for the estimated value of the property in question.

3. Required capital outlay for producing the equivalent of the hydro out-put from the next best source, assumed by me as from a steam plant.

4. Trends of construction costs of hydro and steam plants. It is my belief that costs of prevailing steam plants was at that time increasing more rapidly than that for hydro.

5. Annual cost of producing the hydro.

6. Annual cost of production of equivalent steam output in steam plants.

7. Trend of annual cost. Having been installed most of the hydro annual cost is fixed for the future, but a large part of the steam cost change with the changing cost of labor and fuel. Indi-

vations are that the cost of these items would have increased in the future, giving a distinct advantage to the use of hydro.

8. The annual savings in the use of hydro as compared with steam.

9. The theoretical price which a willing buyer could pay for the company's properties and produce hydro power as cheap as that from steam.

10. Obtaining the necessary lands not owned by the Company.

11. Relative reliability and utility of hydro as compared with steam.

It is generally recognized that hydro-plants have greater reliability and utility than steam plants. Some authorities say that hydro capacity should be compared with steam plant capacity which is ten per cent larger.

I have compared them on an even basis but have used the greater reliability of hydro as an intangible asset. Economic operation of electric generation system as supplied by steam plants can be aided greatly by hydro plants with pondage because it sup-
113 plies additional power capacity on extremely short notice to meet the unforeseen load demands. There are peculiar loads, or particular loads, to be carried by a steam plant for that plant to operate at the best heat rate, and thus produce energy with a minimum use of coal per unit out-put, and the use of hydro will allow the steam plant to do this. Due to their quick response hydro plants can take momentary load variations due to changes and demand, tie line switching operations and so forth, which a steam plant cannot do. Modern high pressure, high temperature steam plants are limited in the rate in which they can pick up loads. Hydro plants can pick up loads at the rate of ten seconds for their total capacity. These advantages of hydro over steam cannot be valuated in dollars and cents, but must be taken into consideration.

12. Possible competition; with the growing market there is no other hydro competition.

13. Future benefit to the site by possible future storage above the site.

The Duke Power Company's Calhoun Falls, or Middleton Project, or the Government's Hartwell Project would, if built, provide sufficient storage to materially increase dependable out-put of Price's Island.

14. Location and Character and rate of growth of market for power.

15. Legal and political aspects.

There are no legal or political aspects of which I am aware, which would lessen the value of the site.

16. Construction hazards for the hydro. The site is reported to be ideal for the safe and efficient construction of the project.

17. Relative time required for development of the hydro site as compared with that required of the steam plant. Hydro takes about a year longer to build.

18. Length of required transmission lines. In this case, about five or six miles.

19. Possibility of combining these lands with other lands for water power development lower down on the river of the same or higher elevation of the reservoir flowage.

Q. Now, those are the factors, Dr. Creager, which you considered in arriving at your valuation in this case?

114 A. Yes sir. I don't know as I have got them all, but I think I have got it pretty well covered.

Q. You had quite a list. Now, in making your appraisal of this undeveloped site, do you understand that the Twin City Power Company did not, at the time of taking, have a license from the Federal Power Commission, to construct a project on this site?

A. Yes, sir.

Q. In making your appraisal, did you understand that about 530 acres of land needed to develop this site at an elevation of 283, was covered by agreements in favor of the Twin City Power Company or the Twin City Power Company of Georgia, which obligated Twin City Power Company to pay a price of $20.00 per acre at the time of the development, and that this amount would have to be paid to the land owners at the time of the development?

A. Yes, sir.

Mr. Miller: I want to object to that, and I want my objections preserved for the ruling of the court.

Commissioner McFadden: Note the objection, Mr. Reporter.

Q. Did you also give weight to the fact that some of these options were some 40 years old, and that the land owners would, or might insist on some higher value for this option property?

A. Yes, sir.

* * * * * *

Mr. R. C. Johnson, Sworn for the Defendant, Twin City Power Company, Testified as follows.

Direct examination.

By Mr. Robinson:

Q. Mr. Johnson, what is your full name and address?

A. Ruben Cumby Johnson, Columbia, South Carolina.

Q. What is your educational background, Mr. Johnson?

A. I graduated with a Degree in Bachelor of Science, Civil Engi-

neer, in 1924, at Rice Institute, Houston, Texas, with subsequent graduate work in water power engineering at the University of Wisconsin.

115 Q. Tell us something of your experience in the Engineering field?

A. I was two years with United Engineers in Philadelphia working on hydro-electric and steam plants, mostly hydro, including the Rocky River Development. I was at one time Professional

The REPORTER: What was that? Speak louder, please.

The WITNESS: I was at one time professor of Civil Engineering at the University and for a number of years taught civil engineering, and among the courses was water power engineering and hydraulics.

Q. What University was that?

A. University of South Carolina. Excuse me.

Q. All right.

A. I was at one time Assistant Professor of Hydraulic Engineering at the University of Tennessee.

During the World War II was instructor and head of the course in hydraulics at the United States Military Academy, West Point.

In 1928, I was with the Duke Power Company on the design of its River Bend Steam Plant.

In 1931, I was with the W. S. Lee Engineering Corporation of Charlotte on the design of the Beauharnois-St. Lawrence River Hydro plant.

In 1936, I was with the TVA as Assistant Hydraulic Engineer on the design of the Chickamaga Dam.

In 1938 to 1941 I was Consultant for Harza Engineering Company on several phases of the Santee-Cooper Hydro-electric Project, and in 1941 with the Harza Engineering Co. I was on the estimate of the cost of the hydro plant for the St. Lawrence River Barnhart Island Project.

Since that time, since 1946 I have been in general consultant work in the civil engineering field. I have skipped things that did not apply to this particular field of activity.

Q. Mr. Johnson, are you a member of any Societies?

A. Yes.

Q. Will you name some, please?

A. I am a Member of the American Society of Civil Engineers and have been a full member since 1935. I am also a life member of the American Concrete Institute.

116 Q. You are a registered Professional Engineer?

A. Yes, the State of South Carolina, State of Georgia, State of New York, and the National Board of Engineering Examiners.

Q. And I believe your business office is in Columbia, South Carolina?

A. At the present time, yes.

Q. Mr. Johnson, did you prepare certain of these exhibits, which we have offered for identification in this case?

A. A number of them were prepared under my directions, and some of them by me personally.

* * * * * *

Q. Now, Mr. Johnson, did you also prepare some cost comparisons between (Exhibit 40) certain hydroelectric projects that have previously been constructed?

A. Yes, sir. I worked up a tabulation of some comparisons with other plants that appeared to be comparable.

Q. Now, will you give us the source of your information as contained on Exhibit 40?

A. If you will refer to Exhibit 40, all these plants are for the Santee River System because it compares more nearly to the Savannah River System.

Q. Is that the largest river for some distance north of Savannah on the Atlantic Seaboard?

A. Yes, the Santee is the largest in this area.

Q. Located in North and South Carolina?

A. Yes. The drainage area and the head—

Mr. MILLER: Before we go into this, I think it should be offered in evidence and I would like to object. As I understood the question, the question was asked previously as to the source of this information, and as I understand those sources are shown on page 2 of the exhibit.

Mr. ROBINSON: That's correct.

The WITNESS: That is correct. I believe that covers all the sources.

Mr. MILLER: Now, with respect to this exhibit, we stipulate subject to the right to check, that the figures may be used in the same manner and to the same extent as though the original source of the figures recited were in the witness' hands. This exhibit, however, we object to it until it is made competent by evidence
117 by the evidence of some witness who can explain and add to it in accordance with the purpose for which it was made maybe tendered, because from the information given on the exhibit itself the exhibit would not be competent or material or probative to any issue involved in this cause.

Mr. ROBINSON: We offer it subject to his objections.

Commissioner MCFADDEN: All right, it is introduced in evidence, marked Exhibit 40, subject to the stipulation as to the correctness

and also subject to the objections as to its competency being established by subsequent testimony.

Q. Now, Mr. Johnson, I want to ask you some questions about the exhibit. The first eight plants on the exhibit are plants of the Duke Power Company?

A. Yes, that's right.

Q. And the Buzzard Roost plant, I believe, is owned by Greenwood County?

A. Correct.

Q. And the Saluda plant by the South Carolina Electric & Gas Company?

A. That's correct.

Q. And the Santee-Cooper by the South Carolina Public Service Authority.

A. Yes, sir, that's correct.

Q. And they all are on the Santee River System, I believe you said?

A. Yes, sir.

Q. And in the second column you have put the date of construction, have you not?

A. Yes, sir, that's correct.

Q. Is that the date of the completion? I am not sure?

A. That is normally the year they went into operation.

Q. Now, in the next column you have placed, I believe, the drainage area?

A. Yes, sir.

Q. In square miles?

A. Yes.

Q. And in the next column the head of the plant?

A. Yes, sir.

118 Q. And then the installed capacity in kilowatts, I believe?

A. Yes, sir.

Q. And the next is the total cost of the project?

A. Correct.

Q. And the next column is the cost of the land and land rights?

A. Yes, sir.

Q. And the next column is the average annual number of kilowatt hours in thousands generated at each of these plants?

A. Yes, that is correct, except in the case of Santee-Cooper. Instead of being a ten year average, there is an average, since the plant went into operation, which was less than ten years, about eight years. I believe I made a note of that somewhere.

Q. Now, the information contained in those columns is information you obtained from the sources indicated on page 2?

A. Yes, sir.

Q. Now, the last three columns are mathematical computations from that information?

A. Yes, which I made.

Q. Have you calculated the annual land cost per kilowatt installed capacity for these eleven plants?

A. Yes, sir.

Q. What does that amount to?

Mr. MILLER: Now, we object to that on the same grounds. The evidence produced so far as to the cost of installed capacity, or any of these figures—I don't know the purpose of it, but as it now stands it could not be offered to any issue that is involved in this case, or that could be involved in this case.

Commissioner MCFADDEN: It is admitted in evidence subject to that objection.

Q. What is that land cost per kilowatt installed capacity?

A. The land cost for the eleven plants averages $44.30 per kilowatt installed capacity.

* * * * *

119 Q. Assuming a 50,000 kilowatt installed capacity, and assuming that the land cost would be on the same basis as the average of these eleven plants, what would the land cost be?

* * * * *

Commissioner MCFADDEN: The objection is overruled, and it is admitted, subject to the objections heretofore stated.

* * * * *

Q. Go ahead, Mr. Johnson.

A. $2,200,000.00.

Q. On the same basis, if you use 68,000 kilowatt installed capacity, what would be the land cost?

A. $3,000,000.00, in round numbers.

Q. Now, Mr. Johnson, will you take the next column, which is headed "Land cost per thousand annual kilowatt hours."

A. That is land cost for energy.

Q. And that averages what?

A. $14.20, or $14.00 in round numbers per thousand kilowatt hours.

Q. Now, my recollection this morning was that Mr. Creager estimated the energy out-put on a 60 foot dam at 200,000,000 kilowatt hours, is that correct?

A. That's correct.

Q. Is that also your estimate?

A. Also my estimate.

Q. Will you make computations on that basis and tell us what the land cost per thousand kilowatt hours would be?

A. $2,800,000.00 would be the land cost for 200,000,000 kilowatt hours annually.

Q. Now, of course, that would include all the land cost to date and not merely that owned by the Twin City Power Company?

A. Yes, that's correct, that includes the entire land cost on comparable basis.

Q. What is your third column?

A. The third column is the ratio of land cost to total cost for these plants.

Q. That works out at what percent?

A. It works out at 19.9 percent for the average.

120 Q. Assuming that is 20 percent and applying to the cost of a proposed development as developed in Mr. Creager's Cross Examination, which I believe for a 60 foot dam was $14,630,000.00?

A. Nineteen point-nine percent of that would be around $2,800,000.00, that is in round numbers.

Q. If you applied it to the 70 foot dam cost of $16,698,000.00, what would that be?

A. $3,300,000.00.

Q. And if you applied it to the $18,650,000.00 for the 80 foot dam, what would it be?

A. It would be $3,700,000.00.

Q. Now, Mr. Johnson, are you familiar with the lands of the Twin City Power Company in this action which are being condemned by the government in this action?

A. Yes, sir.

Q. Those are the lands which have been shown on the deed book and on the maps which are in evidence?

A. Yes, sir.

* * * * *

RE-DIRECT EXAMINATION.

By Mr. ROBINSON:

Q. Mr. Johnson, what, in your opinion, was the fair market value of these Twin City properties at the time they were condemned by the government in June, 1947, or a period subsequent to that date?

A. In my opinion the fair market value was the very minimum sum of a million and a half dollars.

Q. Now, in arriving at this fair market value, Mr. Johnson, do you agree with Dr. Creager as to the factors which are to be con-

sidered in determining the market value of the undeveloped water site?

A. Yes, sir, I agree with him, with the additional, I might say, this site is particularly free of any obstructions to the construction of a hydro plant.

Q. Just what do you mean by that?

A. Well, it is in a section of the country where you have all the favorable physical factors that you could hope to find, lack of railroads, lack of roads, lack of villages, lack of farm houses, lack of telephone lines and transmission lines to be removed.

121 Q. You don't have any cost attributed to the moving of utilities?

A. That's correct.

Q. Is it frequently the case in hydro sites, in developing sites, that railroads have to be moved considerably?

A. Yes, sir, they very frequently have to be moved at considerable expense, or bridges raised at considerable expense.

Q. Is that due largely to the fact that railroads frequently follow rivers and valleys?

A. They followed the contour, more or less, to save cutting and grading and things like that in the old days.

Q. Are any two water power sites absolutely comparable?

A. No, sir. I don't think you could find two in the whole world exactly alike.

Q. In addition to the matter of the absence of roads and railroads, what would you say were other favorable factors in connection with this Twin City Price Island site?

A. Well, its nearness to market, nearness to transmission. The time element, of course, was favorable at the time of taking. The general economical growth and power demand of this section of the country. The shifting population tending to create additional demand. The physical features at the site. The ease in which the spillway could be built without undue excavation. The ease with which the dam could be constructed without undue expense, and the sharp drop in the bank of the stream on each side and the proper width practically. All of those factors add to the desirability of this particular site.

Q. Is the site capable of being developed at various heads, Mr. Johnson?

A. Yes, sir, you run it up for three or even four different heads at intervals of ten feet you would not run into any difficulty whatever.

Q. What would those heads be?

A. 60, 70, 80 or even 90 feet, and if you go to 100 feet you may have to raise the bridge, but that would be all.

122 Q. A 100 feet, I believe, would reach approximately the tail waters of the Duke Power Company's Calhoun Falls site, would it not?

A. Yes, sir, approximately.

Q. I believe that is an elevation of about 300?

A. Yes, sir.

Q. But a pool elevation up to an elevation of about 300 you say would not experience any substantial cost in moving any roads, railroads and utilities?

A. That's correct, yes.

Q. In your opinion, Mr. Johnson, are the Twin City properties also useful in connection with the development of a project down stream from Price's Island?

A. Yes, sir, decidedly so at any of several locations. As a matter of fact, it is being used for that, as I understand, in the Clark Hill Project.

Q. Was that also the plan of the Savannah River Electric Company when it had a license in 1928 to build below and flood out the Twin City properties?

A. Yes, sir. I don't think the heads were identical, but they were substantially the same.

Q. Has the load of the utility systems in this area increased? Would the value of the development at Price's Island increase?

A. Yes, sir, decidedly. A plant of that type would be most advantageous to use on another system as the peaking plant, and if you recall the nature of the load curves from one of the exhibits you will recall that there were a number of peaks. As the steam generation increased, and more and more of that peak could be taken by another load from a hydro electric plant, therefore, the economical advantage would be increased.

Q. Is this the exhibit you referred to? (handing exhibit to witness).

A. Yes.

Q. And did you compute the acreage that the Twin City would have to acquire to build to elevation 263 and 273 and 283?

A. Yes, sir.

Q. How did you do that?

123 A. We used the government supplied maps, the contours as being correct, the acreage, where they had them, and we checked them and in most cases found that they were substantially correct, and we used those; and for the rest of it we used a planimeter and took off the areas by a planimeter, the areas outlined on D.S.R. 153 and 103, and also exhibit No. 24.

Q. Will you give us those acreages for each contour elevation?

Mr. MILLER: Now, I don't object to that if they will include the properties owned by the Twin City and what they control, options, flowage and all of that.

Q. In giving us the amount that the Twin City would have to acquire, are you considering that Twin City would not have to acquire the lands if it owns in fee, the lands over which it has flowage rights and so-called options?

A. Yes, sir. That's correct.

Q. You are also considering that the Twin City would not have to acquire from anyone as to the bed of the stream?

A. That is correct. Now, you are speaking about a 60 foot dam, the area that would have to be acquired in order to develop it as a power site for a 60 foot dam?

Q. Yes.

A. 400 acres for a 60 foot dam would have to be acquired.

Q. All right, 70 foot dam?

A. 1250 acres.

Q. An 80 foot dam?

A. About 1850 acres—I beg your pardon. 2850 acres.

Q. Now Mr. Johnson, you gave us a figure of 170 acres earlier today in commenting on the red portion on Exhibit No. 26, what is the difference between that computation and the 400 acres you gave for the 60 foot dam?

A. A 170 acres will carry the power pool to an elevation of 263. If you establish your power pool to elevation 263 you would still have to have more land above that elevation.

Q. And that represents a difference of—

A. —a difference between 170 acres and 400.

Q. Now, Mr. Johnson, in making your appraisal of a million and a half dollars as the market value of this site, did you understand that the Twin City Power Company did not, at the time of the condemnation, have a license from the Federal Power Commission?

A. Yes, sir, I understand that.

Q. Did you also understand that some 530 of these acres up to elevation 283 were under an agreement in favor of Twin City Power Company and Twin City Power Company of Georgia which were of some age and which the land owner might insist on some higher value?

A. Yes, sir.

Q. You took that factor into consideration?

A. Yes, sir.

By Mr. ROBINSON:

Q. Mr. Johnson, by examining you with reference to Exhibit 40, prior to giving your opinion, I am afraid I may have created an erroneous understanding as to whether your opinion as to value of the Twin City Holdings was based on the comparisons shown on Exhibit 40. I would like for you to explain whether or not your opinion was so based?

A. No, sir, my opinion is not based on that comparison. That comparison was used as a check to see whether or not a price of that nature would be in line with the market value as gone before, and was found that the price as finally determined was somewhere in the neighborhood of over half of what had been paid before on these projects.

Mr. ROBINSON: The witness is with you.

* * * * * *

Mr. NEVILLE C. COURTNEY, was next called as a witness for the Twin City Power Company, et al., and after having been first duly sworn, the truth, the whole truth and nothing but the truth to tell, testified as follows:

DIRECT EXAMINATION.

By Mr. ROBINSON:

Q. Now, Mr. Courtney, will you give us your address and occupation?

125 A. I live in Brooklawn, New Jersey. Occupation, Consulting Hydro-electric Engineer.

Q. And your age?

A. 59.

Q. What is your educational background?

A. I completed two years at The Johns Hopkins University in Civil Engineering.

Q. What has been your experience?

A. I have had 38 years of general civil engineering practice, of which a little over 20 years has been in the hydro-electric or hydraulic engineering field. The first 11 years of my experience I was with mainly minor sub-professional positions that one usually holds. But beginning with the U.G.I. Contracting Company of Philadelphia, Pennsylvania, I spent eight years there with that company, and its successor, The United Engineers Constructors, and mostly on hydraulic engineering work. The type of plant that I worked on there, I was Assistant Engineer, under the engineer in charge of all the hydro-electric work, was at Baldwinsville, New York, where we put in a conditional unit, generator—

Q. —was that steam or hydro?

A. That was hydro. I worked on the Rocky River Hydro-electric Pumped Storage Plant in Connecticut which was quite a substantial development, a special development in the hydro-electric field. I worked on and helped develop under the supervision of the Chief Engineer of the Gorge Hydro-electric Plant in Vermont, and a number of other minor projects in the hydro-electric field, such as investigations from a contractor's standpoint of the building of the Safe Harbor hydro-electric development on the Susquehanna River. We did not design the job but they were large contractors and we developed what we thought to be the proper method of approach for construction.

Q. During that period, under whose supervision were you?

A. Under the supervision of Mr. Joel D. Justin. Part of the time while I was with those two companies I worked on the design of steam power plants. The last fifteen years of my hydro-electric and hydraulic experience was with Mr. Joel D. Justin, as
126 an associate, or as a partner. During my period with him we built a plant for the Dickey Hydro-Electric Company, for the Dickey firm, built them a hydro-electric plant. We were consultants for the Philadelphia Electric Company, where we did practically all of their hydraulic work dealing with hydro-electric power on the Conowingo Plant on the Susquehanna River.

Q. Is that Conowingo one of the largest plants in the country?

A. It is.

Q. What is the approximately installed capacity?

A. 250,000 kilowatts. We made such studies as putting in additional units and so forth. We made a report on the water supply for the city area of Philadelphia, not hydro-electric, but for the purpose of finding what was the most advisable point to secure water for the City of Philadelphia from the mountains up in New York State, or from other high points in Pennsylvania.

We designed a plant down at Millville, New Jersey, for an intake structure to a hydro-electric unit. There were a number of other jobs of such nature of designing and building dams in which we acted many times for contractors as engineers. For instance on the Quabbin Dam in Massachusetts, we worked with the Contractor to make up designs for the hog box and wood dredges to go on the pool for constructing that earth dam.

Under the firm of Justin & Courtney, I became associated with Mr. Justin, we worked on a number of projects, also including those after his death, and incidentally his son and I have continued the partnership since. We worked on the large storage reservoir for the Pacific Gas & Electric Company out in California as a method of getting additional storage for all the hydro-electric units on the Big Feather River. Since his death I have continued that work

with the Pacific Gas. I designed an earth dam for the City of Chester, in southwest Pennsylvania with four other engineers in the City of Philadelphia which was used as a water supply project. It involved an earth dam with tainter gates.

127 We designed a job for Camden County, New Jersey, for a special type of project in which we built a dam to permit the polluted waters of the Delaware River from proceeding up stream by having gates to let the waters move up so that the waters up stream would always be fresh and be suitable for recreation and bathing and fishing and so forth.

We designed two dams for the township of Morristown New Jersey, in which the upstream part was used for recreational purposes and not power purposes.

We were engineers on the Schuylkill River Project in Pennsylvania, which was a $30,000,000.00 project, in which our partnership was to design all the permanent dams that was necessary on that project for the purpose of de-silting or catching the silt that came down from the coal mines so that we could pump it by dredges from those reservoirs and put it upon high ground in the adjacent sections of the river. That work was continued for about two years and a half after Mr. Justin's death, and we have completed all those dams in that time. There are a number of other minor, quite a number of other minor projects, but I have simply given you the major ones.

In this section of the country, I might say, there are four projects that we did quite extensive work on. One of them was the Saluda dam, not the original dam. We did not get in on that until about 1941 when we were employed by the Engineers of the South Carolina Gas & Electric Company, and we designed—I made the flood calculations under Mr. Justin's supervision. I made a study of the rainfall, the advisability of installing additional spillway capacity at that dam, and also we designed a method of strengthening the dam by taking the rock from the spillway excavation and placing it on the down stream slope to make the dam still more stable, and by that result permitting the height of the water in the Saluda reservoir to be raised and thereby securing more capacity for that particular electric company.

About five years later, on the same project, or the same general project, we made additional studies in connection with Gilbert Associates of Reading, Pa. for a low head project immedi-

128 ately down stream from the big Saluda dam for the purpose of securing additional energy and capacity, particularly with respect to securing a license from the Federal Power Commission.

We were the engineers, hired by the local engineers, on the Buzzard's Roost Hydro Project, above the Saluda Project, where we

did some work for them on the design of the stilling basin and retaining walls of the dam.

I worked with the firm of Albright & Friel of Philadelphia to determine the advisable source of water supply for the City of Winston-Salem in North Carolina. They were the Sanitary Water Supply Engineers for that firm, and I was employed as a consultant from that standpoint.

Q. Have you done any work in connection with valuation of projects?

A. While the Grand Hydro, or just before the Grand Hydro case was brought before the courts, I worked under the supervision of Mr. Joel D. Justin for a number of months in assisting him in determining the value, of what we thought was the value of the Grand River Hydro Project, known as Pensacola also, near Vinita, Oklahoma.

We were also employed by the Tennessee Valley Authority in connection with the Powelson case, to determine the value of four projects in Southeastern Tennessee, or Northwestern North Carolina for report to them as to what we thought the value of that property was. We made that report, but neither Mr. Justin nor I were called upon to testify in the case.

In the recent past the firm of Justin & Courtney have had occasion to determine the valuation of certain losses to the hydro-electric plants, which the Senior Mr. Joel D. Justin and I designed in 1937 for the Dickey plant in Maryland. We were acting for the Dickey people and made our report to the Dickey people; and the results of our report were accepted by the City of Baltimore without the annual loss, I should say, was accepted by the City of Baltimore as a basis of settlement which the city has agreed to.

Q. Now, Mr. Courtney, in approaching a study of the Twin City Power Company, the Price Island proposed development
129 and dam site and lands here, what material have you had available for your study?

A. I had available the various, what is generally known, as the 308 reports. I had the opportunity to look at the Definite Project Report on the Clark Hill Project on the Savannah River.

Q. The Clark Hill Project?

A. Yes, the Clark Hill Project. I had the duration curve, which, I understand, was prepared for the monthly duration curve, which was prepared by the Army Engineers on the flow, their calculated flow, at Price's Island. I had the various loads of the power companies, principally, three, the Dukes, The South Carolina and the Southern Companies, or Georgia, as we call it, which I secured from the Federal Power Commission, and I had the benefit of the previous studies made on the Twin City Project, including such things as the preliminary permit, which was granted by the Federal

Power Commission to the Twin City Company. I also had the maps of the various counties that you have heard submitted here yesterday. I had the benefit of looking at the old Amburson drawings that were prepared back—the ones that I saw were prepared in 1909. I think they were prepared first on one head 60, and then later that head was increased to a higher head. I had the benefit of generally other miscellaneous information that was either available in a general way that had been submitted, and other pertinent information that I was able to secure. One particular report was the report of the Southeastern Power Market Survey, made by the Federal Power Commission, and dated in March of 1947, particularly applying to the regions involved in Georgia and South Carolina.

Q. I believe the pertinent portions of that report have been offered in evidence, have they not?

A. I don't think so.

Q. You don't think so?

A. No, sir. I merely had reference to it for my studies.

Q. Now, I assume that you also have the general engineering information that is available to engineers on prices and things of that kind?

130 A. Yes, sir.

Q. Now, in approaching this study of the best development of this site, did you consider a single head, or more than one?

A. I considered more than one head.

Q. What heads did you consider as being an economical development?

A. I considered anything from 60 to 80 or 90 foot head.

Q. Now, in approaching—First, I will ask you: did you find that the Twin City site at Price's Island was suitable for development for water power purposes?

A. Yes, very favorable.

Q. Did you find it favorable at all of these heads that you mentioned?

A. I found that it could be developed at any of those heads. But, if I may add, I find from my calculations so far that the range of the upper head makes the most valuable site for a hydro-electric project.

Q. Are these Twin City properties also useful for water power purposes in connection with a down stream project?

Oh, very much so. These properties occupy a very key position in the whole set up, not only from the vertical standpoint at Twin City, but they are a very vital part for any development at any one of the proposed sites that might have been built down stream. I think there were three in total, two of them between Price's Island and Clark Hill, and also Clark Hill.

Q. It is actually a part of the Clark Hill Project?

A. Oh, yes.

Q. Now, you spoke of a vertical position, what do you mean by that?

A. Well, I mean a 60, 70, 80, 90 or even a 100 foot head.

Q. What is the fall of the river between Price's Island and Chamberlain's Ferry, approximately?

A. The fall of the river?

Q. Yes, on the Twin City Properties?

A. You speaking of the fall of the river now?

Q. Yes, on the Twin City's lands?

A. It would run probably 60, 70, 80 or 90 feet.

131 Q. At Chamberlain's Ferry, beginning at Chamberlain's Ferry, which is approximately the upper end of the Twin City Properties, what would it be?

A. I would say 60 feet. I would have to look at Chamberlain map to verify that, but I think it is approximately 60 feet.

Q. Sixty feet?

A. Yes, sir.

Q. Now, what factors are taken into consideration by you in arriving at the market value of the Twin City Properties involved in this case?

A. The head, and the flow condition, the amount of water that's in the stream, the market in this particular section, how the market is growing and has grown, and the possibility for its continued growth. I would compare that with what we could get from any one of these different heights of development. I would compare that with the next best source of power supply, which would be steam, to see if it was economical to develop it at any height with the purpose of trying to find somewhere near the optimum height that it should be developed.

Q. Anything else?

A. I would consider whether or not there were any railroads in the valley, or rather it would have a great weight in determining that value. In this particular case there are no railroads whatever running up the valley. There are no bridges, until you reach the bottom of the girder of the bridge at elevation 326.

Q. That is the bridge between Lincolnton, Georgia, and McCormick, South Carolina?

A. That's right. There are no highways to be moved. Of course, there may be a few roads that people go down to fish, but I mean real highways. There are no transmission lines. There is practically no improved property on the site, and there is one big feature that I would consider is the fact that the Twin City people have assembled this land into one enormous block of acreage, in which one owner owns a very, very large percentage of the entire acreage that would be required to make this development. The near-

ness of the transmission lines is also a factor. About five
132 miles, approximately five miles west of Price's Island is a 110,000 volt line of the Georgia Power Company. The railroads for bringing in the material, generators, turbines and equipment and so forth are extremely close at Modoc, being approximately two miles. The access lands, or lands necessary for that railroad is owned by the Twin City Power Company. It even has been graded and made for a road and at one time a road was constructed, as I understand. The site gives good storage for development. There is a strong possibility that at sometime in the future that upstream developments would have been constructed, such as the Calhoun Falls, or Hartwell, which the storage in those reservoirs would very materially aid any development at any head at Twin City. I think that generally covers it.

Q. After giving consideration to those factors and studying the lands of the Twin City Power Company, have you formed an opinion as to the fair market value of its lands required for the development of this water power as of June, 1947, prior to the condemnation proceedings, if sold by one who was willing but not compelled to sell, and bought by one who was willing, but not compelled to buy?

A. Yes, sir.

Q. What is that fair market value, Mr. Courtney?

Mr. Miller: I think it is perfectly apparent that he is using the same factors and the same basis as the witness, Dr. Creager, on yesterday, and my general objection runs to the same line and I make the same objections, of course, and I will reserve all of it until the motion to strike after the cross examination, which I shall urge at that time. I don't believe it is necessary for me to restate it all over again that I am objecting to the power value. I assume that the Court is going to overrule it at this time anyway.

Commissioner McFadden: We will admit this evidence, subject to Mr. Miller's general objection, and all specific objections to similar testimony offered by Dr. Creager and by Mr. Johnson.

Q. What is that value, Mr. Courtney?

A. At least $1,900,000.00.

133 Q. In arriving at that value, did you understand that the Twin City Power Company had no Federal Power Commission license?

A. Yes, sir.

Q. Did you understand that in arriving at that value that the Twin City Power Company did not rely upon any power of condemnation?

A. Yes, none whatever.

Q. And did you understand, in arriving at that value, that there

was some land necessary for a 60 foot head or a higher head which the Twin City Power Company did not own and did not control?

A. Yes, sir.

Q. In arriving at that value, did you understand——

Mr. MILLER: —May it please the Court, I think these witnesses, all of them, are generally qualified, and I want to say that any objection that I have made is not addressed to any general qualification of any of these witnesses who have taken the stand, but I don't think this witness can be cross examined about lands by counsel, about the values, and I object to him asking leading questions.

Commissioner MCFADDEN: Yes, those questions are rather leading, Mr. Robinson.

Mr. ROBINSON: Well, I will phrase the questions a little different.

Q. Mr. Courtney, in arriving at your conclusion, with reference to the Twin City lands, did you have any information about the type of ownership and control of the Twin City Power Company of these lands?

A. Well, yes, I understood there were some in there with options, possible options.

Q. Did you understand anything with regard to the age of those options?

A. They were quite old, relatively.

Q. In arriving at your value, did you give any consideration to the age of those options?

A. Well, I gave consideration but it didn't affect my price that I arrived at.

Q. Now, would you be in position to compare this hydro-electric site at Price's Island with other undeveloped sites with which
134 you are familiar with in the eastern part of the United States?

A. Compare it with other sites?

Q. I will ask you this first, are any two sites absolutely comparable?

A. No, sir.

Q. With reference to favorable or unfavorable conditions, how would you rate this site as compared to other sites with which you are familiar with?

A. I would rate this site as extremely favorable. I don't know as I have ever seen a site where it had so—well there were no railroads, no transmission lines, no highways, no bridges within a reasonable elevation of that development. It is almost perfect from that standpoint. The flow of the river is good. You have good drainage area. It rises in the Smokey Mountains, and the run off is good, it is about one and forty five hundred second foot per square mile. Everything points to an extra fine development.

Q. Now, you said a few minutes ago that you did some work on Buzzard Roost Project on the Saluda River in South Carolina, which I believe is a 60 foot head, approximately?

A. I do not remember the exact head, but I do know that it is somewhere in that neighborhood.

Q. Is the stream flow there anything like it is at Price's Island?

A. No, sir.

* * * * *

Mr. W. N. HENDERSON, Sworn for the Twin City Power Company, testified as follows.

DIRECT EXAMINATION.

By Mr. ROBINSON:

Q. State your name to the Reporter, please sir.

A. W. N. Henderson.

Q. Where do you live, Mr. Henderson?

A. Ninety-Six, South Carolina.

Q. What is your business, Mr. Henderson?

A. General Farming and live stock business.

135 Q. Have you had any experience in appraising lands?

A. Yes, sir.

Q. Tell us about that briefly.

A. I began to appraise land for the Federal Land Bank back in September, 1925. I continued in this capacity until 1939. At that time I was put in charge of the Federal Housing Acquirement Section to make loans in the four states of North Carolina, South Carolina, Georgia and Florida. We made loans on farm property just like the FHA does on city property. I continued in that capacity until 1942 or 1943 when the services were discontinued. During that time we made about seventy-five million dollars worth of loans. While I was with the Land Bank I obtained the rank of senior appraiser. We had four in the outfit at that time that obtained that rank.

Q. How far do you live from the Price's Island Dam Site?

A. Right around forty miles.

Q. About forty miles?

A. Yes, sir.

Q. In connection with your appraiser work for the Federal Land Bank and the Rural Housing Program, did you have occasion to appraise lands in the general neighborhood of this site?

A. Yes, sir, I appraised about 45,000 acres of land belonging to the Georgia Power Company in the basin, and by the way, there are about 85 or 86,000 acres in the basin.

Q. Have you, since World War Two had occasion to appraise land in this area?

A. Yes, sir.

Q. You have also had occasion to appraise lands down in Aiken County, South Carolina?

A. Yes, sir.

Q. Now, Mr. Henderson, at our request, did you make an appraisal of the Twin City properties, as shown on this map, Exhibit 25?

A. I did.

* * * * * *

136 Q. (Mr. Robinson) Now, Mr. Henderson, I neglected to ask you before lunch about your educational background. Will you give us that?

A. I was a member of the 1900 class at Clemson College.

Q. You also have a Master's Degree?

A. I was conferred an Honorary Master's Degree by the College in 1928.

Q. That is by Clemson College?

A. Yes, sir.

Q. You were a Member of the Board of Visitors up there at one time, weren't you?

A. Yes, I served twice up there on that Board and was offered a life Trustee job but I couldn't take it.

Q. Mr. Henderson, have you been familiar with the lands we are talking about, the Savannah River Valley, and Price's Island the major part of your life?

A. Yes, sir. I have known the land for a number of years, and I have gone over and appraised other adjoining lands for about three years prior to the taking of this property in connection with the Georgia Power Company and other lands. In other words, I had to go across a lot of this property in order to get to some other stuff. I am perfectly familiar with it and was familiar with it before the appraisal started.

Q. You have also appraised other lands in this area of the Savannah River Valley?

A. Yes, sir.

Q. Do you know anything about the history of this valley yourself, Mr. Henderson?

A. Yes. I embodied that in my report, and I can cover that better by just reading this paragraph.

Q. All right.

A. (Reading) "From 1900 to 1910, the Twin City Power Company purchased approximately 5770 acres of lands on the Savannah River, located in McCormick County, South Carolina, and Lincoln County, Georgia, for power development and secured several

permits to build a dam. About 1910 a railroad was built from Modoc, South Carolina, to the Savannah River, a distance of two and one-half miles. The dam was to be located across the
137 river at Price's Island and some dirt was moved, the cut in the face of the East bank or hill can still be seen. Also, some heavy rock that was dug up can still be seen. The railroad grades and fills are still well marked."

Q. Now, would you describe the valley as you have got it in your report?

A. (Reading) "The lands purchased by the Twin City Power Company from the lower end of Price's Island to Chamberlain's Ferry, a distance of eleven miles up the Savannah River is the prettiest scenery I have ever seen. There are six distinct water falls or shoals and a number of small islands, Price's Island being the largest and containing three hundred and eighteen acres. The banks of the river are steep and range from small bluffs to little mountains. All the shoals are covered by pictures recently made and are marked to show exact location.

From Price's Island to Chamberlain's Ferry, a distance of eleven miles, there is a fall of fifty-seven feet or a total of 44% of the one hundred and thirty foot dam at Clarks Hill being built by the Government.

* * * * *

RE-DIRECT EXAMINATION.

By Mr. ROBINSON:

Q. Mr. Henderson, he asked you about the sale of property down at Stevens Creek, the property you have got in mind down there is a part of the dam site of Stevens Creek?

A. Yes, sir.

The WITNESS: It was a case involving 42 acres of land on the South Carolina side of the Savannah River—what's official title of that dam? Well, I will call it Stevens Creek, when it was built in 1913, it sold for——

* * * * *

Mr. MILLER: Well, strictly for power site purposes, if we are going to talk about power site purposes, I will open the door to that and let the evidence go in as to sales listed in their book, but I will want, when the time comes for my evidence, I will want Mr. O'Connor back here for a brief examination.

138 Mr. ROBINSON: Mr. O'Connor expects to be back for the hearing, or before it is concluded.

Commissioner MCFADDEN: By consent of counsel for the government this evidence is admitted for power site purposes, valuation.

Q. What was that sale, Mr. Henderson?

A. This sale was made in 1913, and is recorded on the records of Edgefield County, 42.67 acres was sold by Fleming, Berdery and Andrews to the power people.

Commissioner McFADDEN: For how much?

The WITNESS: $45,000.00.

* * * * * *

RE-CROSS-EXAMINATION.

By Mr. MILLER:

Q. On this Stevens Creek sale, what was the date again?

A. You say the seller?

Q. Yes. Well, we have got that. What was that date again?

A. Fleming, Berkerly and Andrews were the owners to the Georgia-Carolina Power Company.

Q. Yes. Are you sure that's the correct name of the purchaser? Have you got the date of the recording of the deed there?

A. No, I have not.

* * * * * *

Mr. WILLIAM A. FARLEY, Sworn for the Plaintiff, Testified.

DIRECT EXAMINATION.

By Mr. MILLER:

Q. State your name, please?

A. William R. Farley.

Q. What is your profession?

A. I am a Hydro-Electric Engineer.

Q. Will you give us your back ground, that is, your degrees and university work, or educational qualifications?

A. I have a Bachelor of Science Degree in Electrical Engineering from Massachusetts Institute of Technology in 1923. I also have a Master of Science Degree in Electrical Engineering
139 from the University of California, Berkeley, California, in 1933.

Q. Now in your relation to the Massachusetts Institute of Technology, the requirement for the B. S. in Electrical Engineering Degree, what did that include in addition to general electrical engineering with respect to water power and dams and so forth?

A. In addition to the verbally prescribed courses for Electrical Engineering, I took all courses in hydraulics and Water Power Engineering given for Civil Engineers.

Q. Now, at the University of California in 1933, your Master of Science Degree, I guess it is, there in Electrical Engineering, what did that include? What studies did that include, your work at the University of California for your Master's Degree?

A. That included graduated courses in Electrical Engineering, particularly in transit phenomena, courses in electricity and gases, a course in mathematics and——

Q. —that answers what I want. Mr. Farley, have you any technical affiliations?

A. Yes, I am a Member of the Geophysical Union, and an Associate Member of the American Society of Civil Engineers.

Q. Now, Mr. Farley, taking your work at the University of California in 1933, your post graduate work, will you start back when you got your B. S. from M. I. T., and give us the highlights of your experience beginning in 1923.

A. Beginning in July, 1923, and through March, 1924, I was employed by the Commonwealth Edison Company, in Chicago, and the Public Service Company of Northern Illinois. Three months of this was in the Inside Plant Design Division, three months as generating station and substation operator, and three months in the testing department.

From 1924 to 1931, I was employed by the Phoenix Utility Company, and the Minnesota Power & Light Company, Duluth, Minnesota. Initially on design——

The REPORTER: Keep your voice raised, please.

140 The WITNESS: Initially this work was on design and construction engineering work, particularly related to power houses, equipment, and substations; and in 1927 I was placed in charge of all such work for the entire system, for all the generating stations and substations for the system. This work over a period of time was on the construction of one 12,000 KW and one 25,000 KW ultimate hydro plant, on the reconstruction of parts of 7 other hydro plants, ranging from 55,000 to 250 KW in capacity, and the design and construction of some 15 transmission and distribution substations.

Beginning about 1925, along with the other work, I made economic studies, first in connection with the changover of a certain block of load from d.c. to a.c.——

Q. —what does that mean?

A. Direct current to a*l*t*i*ncurrent service.

Q. All right.

A. Then with respect to a small hydro plant and then with respect to the purchase of power from a then proposed but now constructed steam plant to produce steam for heating and incidentally for power purposes.

In 1928 and 1929, I made a load and power supply study for

the system which included a load forecast for a sufficient period to make an economic comparison of the possible power supply sources which included the construction of additional hydro power plants, additional reservoir capacity, and an interconnection with a neighboring utility company for the purchase of power and a new steam electric plant. As a result of this report, a new steam plant was constructed in Duluth with an initial installation of 20,000 KW in 1930, which has since been increased to 50,000 KW.

In March 1930, I was made supervisor of commercial sales for the company, supervising division and district power salesmen in the sale and application of power for all commercial customers on the system. This work concerned chiefly the design and sale of lighting systems, refrigeration, electric heating, and miscellaneous power applications in commercial establishments.

141 In January 1932, I entered the University of California for graduate study and received my Masters degree in May, 1933.

In May 1933, I was also employed by the Hussey Engineering Company of Oakland, California, and remained there until March 1934. During that time I prepared and presented in person before city councils or other municipal authorities reports on the preliminary design and economic feasibility of electric power supply system, considering steam, diesel or purchased power, and distribution systems for the Cities of Hayward and Clovis and the Truckee Municipality Utility District, which are all in California.

From March 1934 to March 1938, I was employed by the U. S. Forest Service in San Francisco, first in the field of investigation and the preparation of reports on the Middle Fork, the South Fork, and the North Fork of the American River in California relating to the power possibilities, the value of power therefrom, and from competitive steam power plants, to the value of riparian lands along those streams for power and other uses.

From about 1935 to March 1938, I was engaged in the work of the Federal Power Commission assigned to the field office, which was the Corps Services in the San Francisco, California, region in reporting on applications for licenses, in the field supervision of the operation and construction of hydro projects under license in that region.

From April 1938 to the present, I have been employed by the Federal Power Commission, first in the Chicago Regional Office up to September, 1941, and from then on in Washington.

My work in Chicago was similar to the work with the Forest Service to the extent it was available, augmented by regional and individual utility power supply, operation, and economic studies. It also included the establishment in the Chicago Region of, the

Commission's internal security program for electric utility systems in the Spring of 1941.

Shortly after my transfer to Washington, I was and have been thereafter associated with the engineering phases of Part I of the Federal Power Act. I have been Chief of the Licensed
142 Projects Division since February 1945.

* * * * *

Two of them included dam sites at Price's Island site, so to my opinion the Clark Hill site is a superior development to a dam at Price's Island site, and therefore it is more desirable and more fitting.

Mr MILLER: The witness is with you.

CROSS-EXAMINATION.

By Mr ROBINSON:

Q. Mr. Farley, in your study of this stretch of the Savannah River above Augusta, you are also familiar, are you not, with the Act of Congress authorizing a dam at Price's Island and Dorton's Creek between 1901 and 1919?

A. Yes, I believe part of the application for obtaining a permanent permit, copies of those Acts, at least as far as they refer to Price's Island.

Q. Is it fair then to say, Mr. Farley, that this stretch of the Savannah River upstream from Augusta, Georgia, has been the subject of interest for hydro-electric purposes from the date of the first of these Acts, which is 1901, up to the present time?

A. Yes, sir; I think so.

Q. And after the Federal Water Power Act was adopted by Congress in 1920, all applications for non-Federal development of the river have come before the Federal Power Commission?

A. Yes, sir.

Q. Of course, when the Congress itself decides to develop a river it is not for the Federal Power Commission to approve?

A. That's by a federal agency.

Q. Now, as I understood you to say this application for a preliminary permit No. 680 by the Twin City Power Company contemplated an 80 to 100 foot development?

A. Yes, sir.

Q. And the dam site suggested there was approximately the lower end of Price's Island, I believe?

143 A. Yes, sir.

Q. That site is some six miles up stream from Clark's Hill?

A. About five or six miles.

Q. Now, throughout this history of the development of the river the concept of the party proposing the development of the river, whether it was a private party or a Federal Agency, has changed somewhat with reference to the head and somewhat with reference to the installed capacity, has it not?

A. Yes, sir.

Q. Generally speaking the more modern thinking has been in terms of a higher head and a larger installed capacity?

A. And greater storage, yes sir.

Q. Greater storage?

A. Yes, sir.

Q. That has been due, I take it, in part to the greater use of electrical energy and the growth of the loads of the various power systems?

A. Yes. With respect to the installed capacity, which goes along with higher heads, that has been due to a very materially greater electrical load that now exist than some twenty or thirty years ago. It is also influenced by the change in the character of the power supply of the systems. For instance, in the 1920's the Georgia Power Company and the Alabama Power Company were predominately hydro, relatively little steam. That now has changed considerably. Steam now is a very important part of the system supply.

Q. As the percentage of steam generation goes up the general tendency of the use of power is to increase the installed capacity and is higher?

A. Yes, to use it as more at peaking capacity as distinct from base load operations.

Q. And I believe Clark Hill proposes to operate on about 23 to 25 percent load factor, does it not?

A. In that order, yes.

Q. That means that its capacity will be used at 25 per cent—equivalent of 25 percent at full capacity?

144 A. That is one way to put it, yes.

Q. Now, I believe that one of these reports to which you referred, spoke of the Savannah River as the longest river on the Atlantic Coast, is that correct?

* * * * * * *

A. I couldn't tell you precisely.

* * * * * * *

Q. It is one of the largest rivers?

A. It is a large river, no question about that.

Q. And up until the time of the development or the beginning of construction of Clark Hill, did this stretch of the Savannah

River above Augusta represent the best undeveloped water-site on the Atlantic Coast on streams flowing into the Atlantic Ocean?

A. I think I might refer to an excerpt that I read from the Special Savannah River Board, which contains a statement similar to that.

Q. Do you agree with that statement?

A. Generally so, yes, sir.

Q. That is to the effect that it is one of the best power sites undeveloped and compares favorably with TVA?

A. That was part of that statement, yes, sir.

Q. You don't know of any other sites on rivers flowing into the Atlantic Ocean that are any better?

A. You are talking about a river system now, aren't you?

Q. I am talking about the portion of the river system that is embraced in the present Clark Hill development, approximately the same?

A. I couldn't give you precise figures but it is one of the best, I would say. Probably Bugs Island on the Roanoke might be a comparable spot.

Q. Buggs Island is also under construction by the Army Engineers now?

A. That is correct.

Q. Now, as I understand your testimony, you said that the Price's Island site was not licensable, is that the term?

A. That is the word that I used.

Q. You don't mean by that that the Price's Island site is not a good water site? You don't mean that it is not a good water power site, do you?

145 A. I mean by that that it was not as good a site as the Clark Hill site.

Q. Have you studied the Price Island site itself to determine whether a 60, 70, 80, 90 or a 100 foot dam at that site would be a good water power site?

A. I have not made any special study of those various items for the Price Island site.

Q. Now, I believe the Clark Hill site has been considered for various heads, has it not?

A. Yes, sir.

Q. The application of the Savannah River Electric, in 1926, contemplated a 90 foot head, did it not?

A. If you will stay with "pool" I think I can remember much better—280.

Q. Well, the tail water is about 191 feet?

A. It would be about 187 or 188.

Q. That is approximately 90 feet?

A. Yes, sir.

Q. And then when the 308 Report was filed in 1934—First, I want to go back to the Savannah River Application No. 798 for a moment—pool elevation 280, and they proposed to install 63,000 kilowatts initially and 84,000 kilowatts ultimately?

A. That is correct.

Q. Now, when the Army Engineers filed their 308 Report in November, 1934, they proposed to raise the pool elevation 18 feet, did they not, to 298?

A. That is correct.

Q. And with 142,000 kilowatt installed capacity?

A. 143,000.

Q. 143,000 kilowatt capacity?

A. Yes, sir.

Q. And then when the Board of Engineers in 1936 studied it they proposed to raise the pool elevation to 314, did they not?

A. 314.7.

Q. And to install 120,000 kilowatt capacity initially and 150,000 ultimately?

A. That is correct.

146 Q. And then in 1939, Senate Document 66, proposed 20 feet more in the pool, raising it 333, did they not?

A. Yes, sir, that is correct.

Q. Then the installed capacity was to be originally 140,000 kilowatts and then 175,000 kilowatts?

A. That is correct.

Q. What are they actually building now?

A. I believe that the power pool is at elevation 330, and I am not sure that I know what they are putting in now but that which was described in House Document No. 657 of the 78th Congress contemplated an installation of 251,000 kilowatts. They were to be operated in group operation, that is with other elements of the general plan, and an installation of 223,000 kilowatts if it operated by itself.

Q. Now, Mr. Farley, each of these proposed developments of Clark Hill would drown out the Twin City property, would it not?

A. Yes, sir.

Q. And on the Twin City properties between Price's Island and Chamberlain Ferry there is a 60 foot fall in the river, is there not?

A. Well, I will have to check.

Q. Subject to check?

A. Yes, sir.

Q. So the 90 foot dam of the Savannah River Electric Company would have gotten two-thirds of the head of the Twin City Property, would it not, assuming that 60 foot was correct?

A. I don't know whether I could answer it that way. Assuming that there is 60 feet of head from pool elevation 280, between pool elevation 280 and the river bed at Price's Island site, we will say that is 60——

Q. —203.

A. 203. Certain other additional heads would be picked up between Price's Island and Clark Hill site, about another 13 or 15 feet, something like that, but I don't know as I could make, from an engineering standpoint of view, say that 60 feet comes from here on up and that 30 feet comes from here on down. I don't look at it that way.

147. Q. I realize it, but this is an unusual case that we are trying. Let's assume for our discussion because it is in the record, and I am not so very familiar with it; that the river elevation at Price's Island at the lower end of the Twin City property is 203, and the river elevation at Chamberlain's Ferry, which is the upper end of the Twin City holdings, is 263, that is, approximately; now what the Savannah River Electric Company proposed to do in their application for license was to go down stream about 6 miles and build a dam about 15 feet lower than the dam would have been at Price's Island and then flood out the Twin City Property. That is the effect of what they would have done under that license No. 798 by the Commission, which the Commission offered them, would it not?

A. That is correct.

Q. Now, what the government is doing now and what it proposed in the various documents was to go down stream to approximately the same site of the Savannah River Electric and Clark Hill and build a dam which now will reach a pool elevation of 330, and also flood out all of the Twin City holdings in this 60 foot head on the river, wouldn't it?

A. That is correct.

Q. And in this case they will reach — of it with insignificant exceptions?

A. Yes, sir.

Q. Now, I want to ask you about some of the factors, Mr. Farley, from your experience, which would lead an engineer to the conclusion that a site was or was not a good water power site, what would you place first? The stream flow?

A. No, I think, as far as the hydro-electric plant is concerned, well, it is hard to say that you put one first, but a very important element is storage capacity, because storage capacity is intended to augment low flow, the economics of the project can — quite materially on what a project can do under adverse flow condition and the favorable storage, availability of favorable

storage, is to improve low water conditions principally.

148 Q. And of course the importance of storage depends on how you expect to use the hydro in connection with your steam system?

A. It can work two ways. For instance, if you have sufficient large storage where—what we call seasons, that you can regulate throughout a complete season, then that tends to improve what we call dependable capacity of the project on an annual basis. In addition to that storage can be operated to fit a hydro-generating capacity into a load on a weekly basis. In other words, by dropping off on week ends, as the load drops off, and concentrate the water of energy available at the time when it is needed most on this system load.

Q. Another factor is the drainage area of the stream flow, is it not?

A. That is correct.

Q. And the next factor is the available head or fall in the river?

A. That's correct.

Q. Now, are you familiar with the approximate drainage on the stream flow of Price's Island on the Savannah River?

A. If I remember, it is about 5690 square miles.

Q. Would you say that drainage area is larger than fifty per cent than the project licensed by the Federal Power Commission for construction?

A. I don't know whether I could say 50 percent because many of our projects are out in the west where we have very large heads available and they are relatively small drainage areas or small stream flow, but comparison would have to be more with projects in the east, but I would say off hand that is a relatively large drainage area.

Q. That is a relatively large drainage area?

A. Yes, sir.

Q. The testimony here—I think you are familiar with it—indicates that in 11 miles, which Twin City owns along the river, there is a fall of approximately 60 feet, something over five and a half feet per mile, does that compare favorably with the power projects in the east under license by the Federal Power Commission?

149 A. Yes, I believe so with the exception of certain—well, what you might call unit sites in the east.

Q. Some sites in the mountain areas?

A. That's right.

Q. As a matter of fact, that fall exceeds the fall per mile on the stretch of the Savannah River between Price's Island and Clark Hill, does it not?

A. Yes, sir.

Q. Now, in building one of these sites, is one of the major costs frequently the moving of railroads and highways and raising bridges and transmission lines?

A. Whenever—in order to develop a site it becomes necessary to relocate a railroad or a major highway that is a sizeable item in the cost of the project.

Q. And a site without any of those utilities to move is a particularly desirable site, is it not, with all other things being equal?

A. Yes, because you don't have the relocation cost.

Q. Are you familiar with the fact that a dam leading up to a 100 feet at Price's Island would not have to relocate any railroads, or any highways, or any bridges?

A. I don't know as I could answer that without checking off hand.

Q. But you do know that there is very little relocation in this basin?

A. Drawing on my memory, I think that is the situation.

* * * * *

Q. Mr. Farley, a sharp fall below a proposed dam site leads to very favorable tail rate conditions, does it not?

A. If you have in mind a relative steep grade or sharp fall, as you call it, and is such that lessens the back water effect during high water periods, that is true.

Q. That situation is true at Price's Island site, is it not?

A. I don't know.

Q. You don't know?

A. No, sir.

Q. There is no question about the fact that in 1947 there was ample market for any power that could have been
150 generated at Price's Island at any head up to a 100 feet, is that true, Mr. Farley?

A. Without relating it particularly to Price's Island, I would say that at the beginning of 1947 and since then, I believe there would be, in the southeast, a market, yes.

Q. The market studies show a very sharp and growing increase in demand, don't they?

A. Beginning in 1947.

Q. There would also be a need for hydro peaking purposes in this section, would there not?

A. Yes, I think definitely there would be.

Q. As a matter of fact, Clark Hill is going to be largely a peaking plant, is it not?

A. That is correct.

Q. The nearness of transmission facilities is also a factor to be considered in valuing water power sites, is it not?

A. Yes, unless the transmission facilities—well, the less transmission facilities you need to get the project's power to market less will be the cost.

Q. The nearness of railroad facilities for construction purposes is also an important factor, is it not?

A. Yes, sir. These are on a relative basis.

* * * * * *

Commisioner McFADDEN: Now, to come back; what sort of kilowatt production would this Price's Island project, or Twin City Project, do? Do you know about that?

The WITNESS: I don't know, sir.

Commissioner McFADDEN: My recollection—and I am speaking entirely from memory; it would average a production of about 32,000 kilowatts, is that right, with a 60 foot head?

Mr. ROBINSON: 32,000 prime capacity with a 60 foot head, and 50,000 installed capacity.

Commissioner McFADDEN: Now, would a project like that, producing 32,000 kilowatts with a 60 foot head, would that be a feasible project in this section of the country?

* * * * * *

The WITNESS: It is possible though that would be a feasible project, and when I say feasibility, I mean that it can
151 be developed physically that the value of the out-put is in excess of the cost, therefore it would be economically feasible.

Commissioner McFADDEN: And economically practical to do it, is that right?

The WITNESS: That's right.

* * * * * *

Q. I want to ask you one other question, Mr. Farley; In determining whether a water power site is worth developing, what is the usual approach of engineers to determine that figure?

A. Well, the end result is whether it will pay out.

Q. Now, in order to determine whether it will pay out, did you make a comparison between that site and anything else?

A. Yes, you could work up a proposed plan of development and determine what its output will be in terms of dependable or prime capacity and average annual energy. You then make an estimate of the cost to find out what the annual cost of the project cost. The project, standing alone, would ordinarily be

compared with the cost of producing equivalent amount of power or capacity and energy from steam.

Q. That is the report of the engineers in working on this property to determine whether a water power site should be bought or sold?

A. That is in most parts of the country.

Q. Does that apply to the southeastern part of the country and the Savannah River basin?

A. Yes, sir.

Q. It would be used here?

A. Yes, sir.

Q. And would that be accepted by the buyer and seller in determining what they would pay for the site and what they would sell the site for?

A. Such comparisons enter into the sales and negotiations. That would be an acceptable factor.

Q. In other words, if I came to you and ask to employ you to determine whether I should buy this undeveloped site,
152 is that the approach in which you would advise me whether to buy it or not?

A. Yes, sir, I think it would be.

* * * * *

Commissioner JOHNSON: I have got one more question. I may not have understood you correctly, but did I understand you to say a few minutes ago that at the dam-site with a head of 60 or 70 feet at Price's Island without a related dam up stream might be an economically feasible project?

The WITNESS: Yes, a dam standing by itself without relation to other up-stream storage or anything like that would have to be judged on what it can produce by itself. What would be dependable or prime power and what would be the energy out-put that would then be evaluated in terms of, we will say, of equivalent amount of steam and the value of the out-put such as would be available from a single unit was greater than your cost, why, then it would be generally considered economically feasible. It might not represent the best unit in the overall price.

Commissioner JOHNSON: Were those conditions true at Price's Island? Is it economically feasible, the conditions there, for the construction of a dam-site as you say that——

The WITNESSS:—I have not made that analysis that you refer to.

* * * * *

RE-DIRECT EXAMINATION.

By Mr. MILLER:

Q. Now, Mr. Farley, I just want to make it clear; the five different schemes you discussed on your cross examination, two of which included a scheme at Price's Island, those were schemes discussed by the Chief of Engineers in his report on the Savannah River Electric made August 29, 1927, and I refer to the Savannah River Electric Company's application for a license?

A. I don't believe the Chief's report of August 29th referred specifically to studies, but he does concur in the conclusions of the District Engineer Report to which this study is attached, and which mention is made. The District Engineer's Report is dated July 27, 1927.

* * * * *

153 Q. Now, you referred to this steam plant comparison by the engineers and its example, the example of the way that is enumerated from the exhibit furnished in Exhibit "A". Well, I am not going to bother with that right now. Is it not true, Mr. Farley, that what they are determining there is the economical feasibility, what they are discussing in these House Documents?

A. That is correct.

Q. And they include in those estimates the value of everything, the complete cost, the land cost and everything else?

A. That is correct.

Q. Well, there will be another witness, anyway. Now with reference to this matter of economical feasibility that was brought out on cross examination and in talking about the various dams that might be built at Price's Island, and in saying that such a dam might be economically feasible, considered by itself, you had in mind strictly from a private business stand point?

A. That is correct.

Mr. HARRISON G. ROBY, sworn for the Government, testified.

DIRECT EXAMINATION.

By Mr. MILLER:

Q. State your full name, please sir?

A. Harrison G. Roby.

Q. I believe it has turned out that you are an Electrical Engineer, is that true?

A. That is true.

Q. Will you state your educational background?

A. I graduated from Dartmouth College in 1904 with a Degree of Bachelor of Science, and from the Thayer School of Civil Engineering in 1906. During my post-graduate year I taught descriptive Geometry and Surveying in the College.

Q. First, let me interrupt you to ask you if you belong to any Engineering Societies?

154 A. I am a life member of the American Society of Civil Engineers, and at one time I was a member of the Executive Comittee of the Power Section of the American Society of Civil Engineers.

Q. Now, will you give us your experience, beginning with your graduation from college?

A. From 1906 to 1908 I was in the employee of the McCall Ferry Power Company, which was building a large hydro-electric development on the Susquehanna River. I had charge of survey party locating transmission lines to Lancaster, Reading, Harrisburg and Baltimore.

From 1908 to 1913, I was with Daniel W. Mead, Consulting Engineer, Madison, Wisconsin. Professor Mead was head of Water Power Engineering in the University of Wisconsin, and I believe recognized as one of the foremost water power men in the United States. He was later President of the American Society of Civil Engineers. I look upon the five years that I spent with Professor Mead as the finest education in water power that a man could get.

During the time that I was with Mr. Mead I assisted in the design of five hydro-electric projects, and had charge of surveys at dam sites and reservoir and transmission lines. I was also Resident Engineer on the construction of a project on the Menominee River at Twin Falls near Iron Mountain, Michigan. I assisted in building another project for the Altoona Power Company on the Thunder Bay River, Michigan.

In 1913, I was hired as Superintendent in Charge on a development on the Menominee River of the Oliver Iron & Mining Company, which is the mining end of the United States Steel Corporation. On this project I had entire responsible charge for organizing the work, hiring and firing, and all fields of engineering.

During World War I, I was Lieutenant and later Lieutenant Commander in the Civil Engineer Corps of the Navy. I had charge in the field of the construction of the Navy and Munitions buildings located between 17th street and 21st streets on and along Constitution Avenue, Washington, D. C. At the time of this construction I believe this was one of the largest office

construction that had ever been undertaken in the United
155 States, and at the peak of the work the contractor had over 3,000 men employed.

Later I was made Public Works Officer at Quantico Marine Barracks, Virginia, and as such I had charge of the design and construction of a water supply system for the camp, including dam, filteration plant, pumping station, seven miles of pipe-line and reservoir. I also had charge of the design and construction of a Diesel electric plant for supplying the camp with electric power. There was also a large extension to the camp on which I acted as the representative of the government in that work. After the Armistice, I was transferred to Philadelphia, were as Assistant Public Works Officer for the 4th Naval District, I had the duty and responsibility of settling all outstanding contracts.

In 1920 and 1921 I was principal assistant to Col. Wooten, of the Corps of Engineers, who was the American Representative of a two-man board, Canadian-American Board, investigating the improvement of the St. Lawrence River of the International section. I had particularly the responsibility of the development of power that run somewhere two million horse power and the location of the power plant and of the dam. This is the project that is now being discussed by the Canadian Engineers of the project they made themselves before. I might say in that regard that the location of the power plant and the installation as now proposed is approximately the same as I arrived at at this time.

From 1922 to 1939, I was First Assistant Hydraulic Engineer and later Chief Hydraulic Engineer for the Byllesby Engineering and Management Corporation of Chicago. This Company performed all of the engineering work for the Standard Gas and Electric Company, which owned and operated public utilities in Pittsburgh, Louisville, Minneapolis and St. Paul, and eastward to Lake Michigan in Wisconsin, in Oklahoma, Southern Oregon and Northern California and San Diego, California. I had charge of the design and supervised the construction of a 80,000 kilowatt Hydro plant on the Ohio River at Louisville, Kentucky. This was rather a new type of development
156 known as a propeller-type, and at this time this was the largest propellor-type development in the United States. I also had direct charge of the design and supervision of construction of two projects on the Wisconsin River in northern Wisconsin and had supervisory charge of the development of a project on the Rogue River in Southern Oregon.

During the years that I was with Byllesby Company, there were several periods when the Corps of Engineers arranged with

the Company for a leave of absence from my duties with that company to act as consultant on power investigations. In 1933 I spent several months in the Office of the Division Engineer, St. Louis, and had charge of the planning of the Cove Creek project, which is now the Norris development of T.V.A. At that time the Corps of Engineers expected to have the work on developing the Tennessee River, and when T.V.A. was formed we turned over about 100 completed drawings on the Norris project, which was developed substantially as we had planned it. In 1934, I was consultant for the Corps of Engineers on the calibration of the hydro plant at Lockport, Illinois, by which the discharge from Lake Michigan through the Sanitary Canal to the Mississippi River is controlled in accordance with the orders of the United States Supreme Court. In 1939 I was consultant on the power plant now built at the Dension Dam on the Red River between Oklahoma and Texas. This project has an ultimate installation of 175,000 kilowatts.

In 1939, the Great Lakes Dredge and Dock Company, Contractors, hired me to take charge of a new division of the company, which was going to undertake contract work on dam construction. I prepared the bids on this work and we were awarded the contract and built the Loyalhanna Dam, one of the dams built to protect the City of Pittsburgh from floods. We also had a part interest and performed all of the concrete work on the Franklin Falls project in New Hampshire. The construction of dams came to an end as the United States prepared for World War II, and I took over, as Resident Engineer, the construction of the power-house and installation of the first unit at the Fort Peck Dam on the Missouri River in Montana.

157 In 1943 I was engaged by the Government to take charge of the preliminary investigation of the development of the Missouri River for navigation, flood control, and power. This is one of the major undertakings in the United States and includes the Garrison Dam, which is 200 feet high, or about 200 feet high; and more than two miles long and contains over 75,000,000 cubic yards of earth fill. It creates a dam of 23,000,000 acre-feet capacity, which I believe is the largest artificial reservoir in the world, and will have 400,000 installed kilowatts. Below this dam is one being built called the Oahe Dam, near Pierre, South Dakota, which will have a reservoir capacity of about 16,000,000 acre-feet and an installation of 425,000 kilowatts. The third dam, located below Chamberlain, South Dakota, is the Fort-Randall Project, which has a reservoir capacity of 6,500,000 acre-feet and a power installation of 320,000 kilowatts. The lowest of the series of dams is at Gavins Point, which is built to reregulate the flow of the river to supply

a satisfactory navigation, condition, and which will have an installation of 100,000 kilowatts. These dams——

Q. —Let me interrupt you a minute just as a matter of interest. If these dams had been constructed, do you have an opinion as to what effect they might have had on the recent Missouri flood?

A. Well, they certainly would have been able to reduce the flood probably to the point of no damage.

Q. All right, go ahead.

A. In 1944, I was invited to join the Corps of Engineers and to set up a new branch in the Office of the Chief of Engineers, designated as the Hydro Power Branch. As Chief of this branch I have had the responsibility of acting as consultant on all corps of Engineers projects in the United States, which has any power possibilities. My duties includes the inspection of the dam site and the lay-out of the project, the primary power value, the load factor, the dependable power and the initial and ultimate power installation. At the present time the Corps of Engineers has under construction approximately 6,000,000 kilowatts of hydro power, and the total cost of the projects amounts to approxi-
mately $1,500,000,000.00. I believe this is the largest
158 program of power development ever undertaken by one organization.

One of my other duties has been acting as contact man with the Federal Power Commission. The law reads that the Secretary of the Army shall make provision for power at multiple-purpose dams on the advice of the Chief of Engineers, and the Federal Power Commission. It is my duty to negotiate these matters so that the Corps and the Federal Power Commission have come to an agreement before the project is undertaken. Another duty involves the review of all applications for permits and licenses that are received by the Federal Power Commission, who refers them to our office for our comments, as to the requirements to be included in a license in the interest of navigation.

* * * * * * *

Q. What I want you to do, Mr. Roby, and you can do it during the recess, is I want you to calculate the benefits of Price's Island, just as the Army Engineers had calculated the benefits of Clark Hill, as shown on page 18 of the Definite Project Report?

A. Now, do you want me to figure Price's Island as though it was a federal project?

* * * * * * *

Q. Now, Mr. Roby, I want to go into the Clark Hill project itself. As I understand, Clark Hill has a normal operating head of 131 feet?

A. I think that's right.

Q. Now, by operating head, you mean the difference between normal pool elevation and the tail race, which is the water that comes out of the water wheels?

A. Yes, sir.

Q. Now, that 131 feet incorporates all of the Twin City properties, does it not?

A. Yes, sir.

Q. And on the Twin City Property eleven miles, which is on up the river from Price's Island, there is 60 feet of the head, is there not?

A. I didn't quite get your question.

159 Q. In the 11 miles of the river, which runs from Price's Island to Chamberlain's Ferry, there is 60 feet of the head which is embraced in the 131 feet?

A. 131 feet.

Q. 131 feet?

A. I think that's correct.

Q. That is substantially correct, anyway, isn't it?

A. Yes, sir.

Q. So, of the 131 foot head at Clark's Hill about 45 per cent of it comes from the Twin City area of the river, boundaries of which are owned by the Twin City Power Company?

A. That's correct, or sounds correct.

Q. Now, if I understand it, the drainage area at Clark's Hill is about 6,400 square miles, is that correct?

A. The drainage area above the dam is 6,144 square miles.

Q. Do you have the corresponding figure for Price's Island?

A. I have it somewhere in my notes. I know it is approximately somewhere around 88%—wait a minute, let me check that. I remember that but I haven't been able to put my fingers on it. I am perfectly sure it is about 88.

Q. About 88?

A. Yes, sir.

Q. In other words, of all the water that comes through the water wheels there, that comes by Clark Hill, 88 percent of it comes from the drainage area above Price's Island?

A. That is substantially correct.

* * * * *

Q. Now, going back to the Price's Island matter; you told us that on the basis of government financing you came out with an annual cost of the hydro of $1,044,670.00?

* * * * *

Q. Now, when you compare that with the annual cost on steam, which according to your computation, was $1,745,000.00?

A. If Price's Island was based on federal financing the annual charges would be less than the steam charges for
160 an equal plant by the difference between $1,745,000.00 and $1,044,000.00, or approximately $700,000.00.

Q. Now, sticking to Price's Island, Twin City site for a moment; could you tell us what the benefit ratio is, using those two figures, that is, assuming federal financing on hydro and steam figures for Price's Island?

A. Well, if I understand your question, the ratio—you mean between $1,745,000.00, and $1,044,000.00?

Q. Yes?

A. The ration would be 1.67 to 1.

Q. 1.67 to 1?

A. Yes.

Q. Now, will you turn to page 18 in that Clark Hill Definite Project Report and tell us what the benefit ratio that was computed down for Clark Hill on the same basis?

A. 1.65.

Q. 1.65. And I believe that was based on a considerable lower hydro construction cost than you now estimate it will take to complete Clark Hill?

A. Yes, that's right, but it was also on a 4-unit plant.

Q. So, if you compare the Twin City site, Mr. Roby, on the same basis that the Army Engineers compared Clark Hill in the Definite Project Report with steam, the benefit ratio is substantially the same?

A. Do you mean if the Price's Island project is financed as a federal project as against a private financed steam plant of the same capacity and turn out, that is correct.

Q. So, from a power view point, there is no substantial difference between the two sites? I mean on the economical feature?

A. The figures we prepared roughly seem to agree.

Q. And that is based on a 80 foot dam at Price's Island?

A. Yes, sir.

Q. Now, I believe you told us that in your opinion, that if you went to a 90 foot dam the benefit ratio on Price's Island would be somewhat higher?

A. Yes, sir; I think so.

161 Q. And perhaps even higher on a 100 foot head?

A. Yes, probably.

Mr. EUGENE LOGAN, sworn for the Government, testified.

DIRECT EXAMINATION.

By Mr. MILLER:

Q. Will you state your full name to the Commission and the Reporter?

A. Eugene F. Logan.

Q. Now, Mr. Logan, you have stated your full name, and now I want you to start with your degrees. I assume that you are a hydro-electric engineer?

A. I am.

Q. Start with your degrees and give us your experience down to date. I want you to do it fully but as briefly as you can so it won't take too long for the record.

A. My profession is that of a Hydro-Electric Engineer, retired. I received my engineering education from the Washington State College from 1904 to 1908, and I have been engaged in the practice of engineering ever since, or until February, 1950. That is about 42 years.

My general experiences in the electric power field are about as follows:

From 1904 to 1908, Washington State College, four years course in Civil Engineering.

1908 to 1926 Civil and Hydraulic Engineering work for the Washington Water Power Company, Spokane, Washington, for a period of 18 years.

1926 to 1934, private practice, with offices in Spokane, and later in Seattle, and partially, the latter part, in Oakland, California, during 1932 and 1933.

From 1934 to 1936, Senior Hydro-electric Engineer in the San Francisco Office of the United States Forest Service.

From 1936 to 1950, with the Federal Power Commission in Washington, D. C. Senior Engineer 1936 to 1942; Principal Engineer from 1942 to 1945, and Chief Division of Projects Cost
162 until I retired in 1950. That is the general grouping up.

* * * * * *

I represented the State of Washington in several Federal Power Commission hearings, testified with respect to the Columbia Basin Project before Senate and House Committees on Irrigation and Reclamation in Washington, and presented in behalf of a client before the Bureau of Internal Revenue in a case involving the value of water rights. I represented the Bureau of Internal Revenue in another case involving the value of water rights held for future development of power on the Spokane River.

About this time, and because of economical conditions throughout the country I decided to enter the Government Service; and after taking a United States Civil Service Examination I was soon afterwards appointed Senior Hydro-electric Engineer in the U. S. Forest Service in San Francisco.

During the two and a half years, February 1934 to July 1936, with the U. S. Forest Service in San Francisco, I supervised the survey and valuation of lands in the National Forests of California covered by water power withdrawals. The survey involved a complete investigation and value of lands for power and other beneficial uses on all the main streams in California and the immediate surrounding areas. These reports prepared indicated the probable value of all power sites regulating reservoirs as individual developments and as parts of a comprehensive scheme of combined steam and hydro-electric superpower development for the territory within economical transmission distances.

My work with the Forest Service during the fiscal year ending June 30, 1936, included reports on numerous applications to the Federal Power Commission for a determination under Section 24, wherein that's Restoration to Entry, of the Federal Power Act, and reports on applications to the Commission for permits or licenses, which reports generally included, among other things, a study of the adequacy and economic feasibility of the project.

163 I was transferred to the Federal Power Commission in Washington, my transfer becoming effective as of August 1, 1936, and that by the way was immediately following the placing of regional offices by the Federal Power Commission in five different places scattered throughout the United States; among which was San Francisco, Denver, Fort Worth, Chicago, New York and Atlanta. I remained with the Commission until I retired on February 1, 1950, first as Senior Engineer, then as Principal Engineer and finally as Chief of the Division of Project cost.

My chief duties from 1936 to 1945 was given over largely to reporting on the claimed actual legitimate cost of projects under license from the Commission in accordance with Section 4 (b) of the Federal Power Act. Such costs form the basis upon which the United States determines the amount to be paid in the event of recapture of the project under Section 14 of the Power Act.

Out of 165 major licensed projects scattered throughout the United States, I personally prepared, reviewed, or revised, reports on 50 or more projects during the course of which I analyzed the cost of some 75 projects costing over a half Billion dollars. Among those reports reported on were the Puget Sound Power and Light Company's Rock Island Project on the Columbia River; Southern California Edison Company's Big Creek Project on the headwaters of the San LaKeen River; Union Electric Company's Bagnell Proj-

ect on the Osaga River; Safe Harbor Water Power Corporation, Safe Harbor Project on the Susquehanna River; Kanawha Valley Power Company's Londau and Marinet Projects on the Kanawha River.

In Januaty, 1945, the engineering work of the Commission was reorganized and a Bureau of Power was established. This Bureau was divided into four divisions, one of which was the Division of Projects Cost for which I was named Chief and remained as such until my retirement in February, 1950.

As Chief of this division I had general responsibility for the maintenance of factual cost data relating to the construction, maintenance, and operation of water power plants, fuel burning plants, and transmission facilities, including review and general
164 technical supervision of work performed in this field in the Bureau's five regional offices which had been established in July, 1936. This Division also provided consulting service to the staff groups of the Commission and other government agencies in highly technical cost and valuation matters.

By Mr. MILLER:

Q. Mr. Logan, from your experience that you have related publicly and privately, will you give us briefly the principal method which had been used in attempting to arrive at power site value of undeveloped power sites?

A. (1) Comparative sales of complete power site; (2) Steam plant comparison method or the capitalized net income; (3) Comparative cost of constructed projects; (4) The actual legitimate original cost.

CROSS-EXAMINATION.

By Mr. ROBINSON:

Q. Now, in July, 1951, what was the purpose of your visit to the river?

A. They wanted me to see the Price's Island site, which I did. I went out there last July to see the site and saw considerable other lands along the river above this Island.

Q. Primarily for the purpose of testifying?

A. In this case, yes.

Q. Now, you spoke of an active period of building hydro plants, are you familiar with the Federal Power Commission charts on that?

A. Yes, sir.

Q. This is exhibit No. 36 I am now showing you. Does that chart rather accurately indicate the interest of non-federal corporations, and states, that is, people who made licenses in hydro?

A. It does.

Q. And it shows that from about 1930 to the end of World War II there were very few applications to the Federal Power Commission for constructions of non-federal projects, doesn't it?

A. That is correct.

165 Q. And then at the beginning of World War II there was a sharp increase, was there not?

A. That is correct.

Q. And those applications are still on the increase, aren't they?

A. I believe they are. That is my understanding.

Q. I have overlooked the fact that you have been loafing for the past two years?

A. Yes, I have not paid much attention to it.

Q. Now, Mr. Logan, you gave us four possible ways of determining the value of a potential water power site?

A. Yes, sir.

Q. You concede, of course, that there are some sites that have a value for hydro electric sites?

A. Yes, sir.

Q. For hydro development?

A. Yes.

Q. Because of the limited number of those sites and the fact that you are—or rather the man who usually puts them together is the man who develops them, you don't have many sales of complete sites, do you?

A. Not to my knowing.

Q. You do have an instance sometimes of a sale of a dam site?

A. Yes, once in a while you will find that.

Q. But as far as a complete site is concerned usually the person who puts that together is the developer?

A. Yes, that is correct.

Q. So, in your search for comparable sites, you didn't find any for that purpose?

A. I did not.

Q. Now, your second method is by comparing of the cost of developing hydro sites with the next best method or alternative method of developing the same amount of power?

A. The next best available site, or available development.

Q. And that usually involves the comparison of hydro sites with steam?

166 A. In all sections of the country except the Pacific Northwest.

* * * * *

Q. Now, we called attention in the Definite Project Report to a statement from the Army Engineers, which indicated that the hydro plant had about a 10 percent advantage over the comparable steam plant, and I believe Mr. Roby attributed that doctrine, if I may call it that, to the Federal Power Commission, do you agree with it?

A. Well, I have used at times, and I am quite certain that the Power Commission have recommended 5 percent. I don't recall any 10 percent, but I do recall there have been times when they give hydro a 5 percent advantage.

Q. Do you think that is justified in view of the operation of hydro?

A. Yes. I believe that hydro has some advantage over steam, in fact, I know it has, but for this purpose here, of comparison, you take it into consideration.

Q. Well, hydro can go on the line instantaneous and steam can't?

A. Yes, sir.

Q. And it has certain other operational advantages, don't it?

A. Yes, sir.

* * * * *

Q. Do you think that five percent is a fair differential to use?

A. I think it is.

* * * * *

Q. I understand that, but if hydro has not gone up less than steam, how do you account for this increased interest of private parties in hydro licenses since the last war?

A. I don't believe you want me to answer that question, do you?

Q. Yes. If you can.

A. Well, I think it would be to compete with federal development of hydro power.

Q. You don't think the increase in the price of coal has anything to do with the private utilities becoming interested in the construction of hydro projects since the war?

167 A. I don't believe so, no sir.

Q. Now, you told us——

A. —just a minute. Let me explain. I think the answer was incorrect because coal price had gone up to the point where hydro becomes quite desirable and in many cases they are putting in hydro rather than steam.

Q. Hydro has come back in competition with steam?

A. Yes, sir.

Q. Now, on our best hydro sites, assuming the proper balance of steam and hydro in the system, it is now frequently advantageous for private utilities to put in hydro rather than steam?

A. Yes, sir, that's correct.

Q. Now, back in the nineteen twenties and thirties this rapid advance in the inventive genius to make the deduction of electrical energy from steam so much more economical cause the private utilities to turn to steam rather than to hydro?

A. That was one of the reasons.

Q. But now Mr. John L. Lewis has come along and raised the price of coal?

A. That's right.

Q. And now it's——

A. —the other way.

Q. Hydro, even though it has gone up in cost, has now become competitive with steam?

A. Yes, that's right.

* * * * *

Q. The method in approving a project—The Army Engineers compare the annual benefits of hydro with the annual benefits of a comparable amount of steam?

A. Yes sir, they do.

Q. And those are submitted to Congress?

A. They are.

Q. And those reports are basis for the Army Engineers' request for appropriations to construct projects?

A. Yes, they are.

Q. Those reports also always carry a covering letter from the Federal Power Commission with its comments on that report?

168 A. I believe that's correct.

* * * * *

Q. Now, you also said that the third method is to compare the proposed sites with constructed sites?

A. Yes, sir.

Q. And you pointed out that there were difficulties in making that comparison?

A. Yes, sir.

Q. But it is one of the approaches which you engineers have worked out?

A. Yes, that is correct.

Q. And the Federal Power Commission publishes in the Electrical Utility Cost Unit, the FPC. S-78, some of those comparisons, does it not?

A. Yes, sir.

Q. Did your section get out this?

A. No, sir.

Q. Now, one of the comparisons they make is on the basis of land cost per installed kilowatt, is it not?

A. Yes, sir; that's right.

Q. And for plants of between—well, we have had them here of between 26 feet and a 100 feet on the page which I hand you in that publication for 50,000 kilowatt installed capacity. What is the land cost per kilowatt installed capacity as shown by that Federal Power Commission Publication?

Mr. MILLER: Object. Instead of being immaterial, it is—well, I object to it because it is utterly immaterial and of no probative value, and it is remote to any issue involved or could be involved in this case.

Commissioner MCFADDEN: Objection is overruled. This is cross examination. Go ahead and answer the question.

The WITNESS: You have one circled here, I believe, for 50,000.

Q. Yes, that is the proper one for this case?

A. Yes, sir; $28.00 per kilowatt.

* * * * *

Q. The Federal Power Commission has arrived at the $28.00 per kilowatt as the average land cost for a plant of the size of
169 your comparison on Exhibits C-1 and C-2 would make at Price's Island?

A. That's correct.

Q. And if you multiply that $28.00 by 50,000, the number of kilowatts, you come up with the figure of 1,400,000?

A. That's right.

Q. Now, that $28.00 figure includes all of the major power projects in this country regardless of when they were constructed, does it not?

A. That's right.

Q. And some of them are rather old plants, aren't they?

A. That's right.

Q. Land cost more today than it did back in those days?

A. Yes, sir.

* * * * *

Q. And a great percentage of the projects, hydro projects, were built prior to 1930, weren't they?

A. Yes, that is correct.

Q. And the cost has gone up as the dollar has gone down? Is that true, Mr. Logan?

A. It certainly is.

* * * * *

Q. We are not talking about building lots at the time the boom busted. We are talking about hydro-electric sites. The land cost per kilowatt in the more modernly constructed years, in more re-

cent years, Mr. Logan, would average more than that $28.00, would they not, in your opinion?

A. On the basis of kilowatts, yes.

Q. On the basis of kilowatts. Now, you, in commenting on our exhibit No. 40, which were some of these licensed projects, on these hydro-electric projects, which we compared on several basis, you took the Saluda Project and the Santee Project and reduced the amount we had in the cost of land and land rights, and the principal item that you eliminated was the item of relocation of highways and railroads and transmission facilities?

A. That's correct.

Q. Now, would you say, Mr. Logan, that the potential hydro electric site, which did not have any railroads, trans-
170 mission facilities and highways and bridges to be moved, and all other things being equal, would have a higher value for hydro electric development than one that did have those?

A. That just reduces the cost of the project by the amount of money that you have to spend to make all of this.

Q. So all that you can reduce the cost of the project means the site is that much more valuable?

A. The more you can reduce it, the better.

Q. And these costs of relocation of railroads, highways and bridges run into tremendous sums, don't they?

A. Yes, they do.

Q. You are familiar with the Twin City Properties at Price's Island?

A. Yes, sir.

Q. Did they have any railroads to be moved?

* * * * *

The WITNESS: All of those things—all the cost you can eliminate naturally benefits the project to that extent.

Q. You are familiar with the fact that a head of a dam at Price's Island of 100 feet would not have had any location problem?

A. I don't think it would, as far as I know.

Q. You are also familiar with the drainage area, the approximate drainage area, at that location?

A. Well, I haven't ever measured the drainage area but from the testimony introduced here I presume the drainage area is correct, something over 5,000 square miles.

Q. And that is a very favorable amount of drainage area for the development of hydro?

A. That all depends upon its location.

Q. Well, for that location?

A. Yes, it is all right for that location.

Q. And also the Twin City property has a rather sharp fall on its property, has it not, some five and a half feet per mile?

A. Yes, sir. It is on the fall line between the Piedmont and the Coastal plains.

Q. And that fall goes to make up the head, don't it?

171 A. Yes, that's right.

Q. And the stream flow and the head produces the power, do they not?

A. They do.

Q. And this southeastern area is a growing market for power, is it not?

A. It certainly is.

Q. And there is a great demand for peaking power in this area, is there not?

A. Well, I would not say about that. I don't remember whether —well, there probably is, yes.

Q. And they are building Clark Hill?

A. Yes, they are building it.

Q. So all the natural market conditions at this site were favorable, as far as you know?

A. As far as I know, yes.

* * * * * *

RE-DIRECT EXAMINATION.

By Mr. MILLER:

Q. Now, coming down to your total capacity charge on Exhibit 1, as I recall Mr. Robinson brought out—and I am speaking of your item under Exhibit 1, the total capacity cost on this steam plant of seventeen forty-four—Mr. Robinson brought out from the Clark Hill records, or some records, of some figure of $16.00?

A. $16.10.

Q. And then you adjusted that how many years later?

A. Well——

Q. —to bring it to $20.60. About five years, isn't it?

A. Approximately a year and a half.

Q. About a year and a half?

* * * * * *

Commissioner MCFADDEN: May I ask him two or three more questions? Mr. Logan, I believe you said that you first came down and examined this part of the river in 1939?

The WITNESS: Yes, sir.

Commissioner MCFADDEN: And you made a subsequent examination of it about July, 1951?

A. That's right.

172 Commissioner McFADDEN: Now, as you were examining it in 1951, did you examine this Price's Island site?

The WITNESS: Yes, sir.

Commissioner McFADDEN: Did it afford a good site for a hydro electric dam?

The WITNESS: I would say that it did.

Commissioner McFADDEN: It did?

The WITNESS: Yes, sir.

Commissioner McFADDEN: All right. Well, do the approximately, oh, I believe it was 4500 acres of land, that the Twin City of Georgia owned on either side of the river running, I believe, from Price's Island up to Chamberlain's Ferry, about 11 miles, would that afford a good storage basin?

The WITNESS: Yes, sir.

Commissioner McFADDEN: Could an economical, efficient, and advantageous power site have been constructed at Price's Island, using those approximately 4500 acres as a storage basin?

The WITNESS: Yes, sir.

Commissioner McFADDEN: You get your head of water?

The WITNESS: Yes, sir.

Commissioner McFADDEN: All right. In your opinion, would it have been economically feasible or practical to have built a dam at Price's Island?

The WITNESS: Not during this period, but back in the twenties I would have said that they had an excellent site and they could have marketed the power at that time.

Commissioner McFADDEN: All right. Now, why, couldn't they market it now?

The WITNESS: Well, at this time, because of economical conditions the cost of the project is so great that a government dam down here where they don't have to pay any material amount of interest can just sell power at such a rate they couldn't compete with them.

Commissioner McFADDEN: Now, Mr. Logan, what I want to get at is, if a 50,000 kilowatt prime capacity hydro plant could have been put up at Price's Island, why could they not have sold the power after 1947?

173 The WITNESS: Well, apparently, at some time or other you reach a point where the cost of the project is so great you can't afford to buy the necessary land, we will say, and compete with your competitors and especially steam in this area.

Commission McFADDEN: In this particular area the lands were already bought?

The WITNESS: Yes, sir.

Commissioner McFADDEN: The greater portion of them?

The WITNESS: That's right.

Commissioner MCFADDEN: So that is not a factor?

The WITNESS: No, sir.

Commissioner MCFADDEN: Now, I want to know if a license had been issued, and I say if, because that is up to the government, but if a license had been issued, would it have been economically feasible for a private concern, private capital, to have put a hydro plant at Price's Island, utilizing that dam site and that storage basin that, as I recall it would have needed somewhere in the neighborhood of 400 acres for a 60 foot head and 2800 acres for an 80 foot head. Now, would it have been economically feasible for private capital to have done that?

The WITNESS: Taking it as of June, 1947?

Commissioner MCFADDEN: June, 1947, June 30th, 1947, I believe it was?

The WITNESS: I couldn't tell you whether it would or would not, because at that time, having had the land and all of that, then the construction cost of the dam and your head might have resulted in an over all cost so low you might have been able to compete with the existing power developments.

Commissioner MCFADDEN: In other words, as I gather from you then, your original statement that it would not be economically feasible was based on the fact the government can manufacture power and sell it at a cheaper rate than private capital can?

The WITNESS: That's what they do.

Commissioner MCFADDEN: All right. Was that the basis of your statement?

The WITNESS: Yes, sir, that was the basis of my statement.

Commissioner MCFADDEN: In other words, it wasn't based on the fact that there wasn't any available market that could have used this power?

The WITNESS: No, sir.

Commissioner MCFADDEN: There was plenty of market for it?

The WITNESS: Plenty of market.

Commissioner MCFADDEN: But the government project would
174 undersell the private capital?

The WITNESS: Yes, it certainly does.

Commissioner MCFADDEN: All right, sir. Now, let me ask you this, and I am just asking this question, and you may or may not know. Isn't it a fact that private capital wanted to build substantially what is now the Clark Hill Project?

The WITNESS: That is correct.

Commissioner MCFADDEN: And the reason they didn't was because the government wouldn't issue the license, and the government took it away from them and is building Clark Hill as a government project?

The WITNESS: That is correct.

Commissioner MCFADDEN: But private capital wanted to do it?

The WITNESS: They did.

Commissioner MCFADDEN: And would have done it but for the fact that the government took it over?

The WITNESS: I think that's a true statement.

Commissioner MCFADDEN: Well, I am asking for information.

The WITNESS: Yes, sir. I think they would.

* * * * *

RE-CROSS-EXAMINATION

By Mr. Robinson:

Q. Mr. Logan, I want to go back first to your illustrative figures, Exhibits C-1 and C-2; In answer to Mr. Johnson's question, as I understand it, your answer was the profit, either on the steam or hydro would be 5½ per cent of the investment cost as you have it here?

A. I don't recall 5½ per cent.

Q. Wasn't that the money figure that you used?

A. That was the return on the interest, the money figure.

Q. And that return would be in part the proper return in-
175 terest on borrowed money portion of the capital?

A. Yes, sir.

* * * * *

Q. Now, I want to get back to this principal question as to how the value on the undeveloped power site—in the last analysis, Mr. Logan, the valuation of an undeveloped power site is a question of judgment, isn't it?

A. It certainly is.

Q. And a man owning a site and wanting to sell it or a man wanting to buy it would employ competent engineers to advise him as to his judgment of its value, would he not?

Mr. MILLER: Objection. That calls for an absolute conclusion for this witness to tell what a competent man would do, and it is argumentative.

Commissioner MCFADDEN: This is cross examination and the witness is an expert. Go ahead and ask the question.

Q. Is that true, Mr. Logan?

A. Yes, sir.

Q. Generally speaking, the man that he would employ would be a hydraulic engineer?

A. That's right.

Q. And that hydraulic engineer would use his knowledge and his information about comparable cost of alternate plants, and he would use his information about constructed projects had cost in so far as it was competent and he would use any information that he might have of the sale of undeveloped site if present?

A. He should, yes sir.

Q. All of those methods that you have discussed here would be used by the engineer in arriving at his judgment figures, would they not?

A. He should.

Q. And it would depend on the individual engineer as to how he would weigh those various methods, wouldn't it?

A. It would.

Q. And then he would come out with a judgment figure of what he thought his client could advantageously sell or buy?

A. He would.

176 Q. And, as I understand your testimony here, it can't be worked out mathematically to the dollar by any one of these methods?

A. It certainly cannot.

Q. But the evaluator would take all of those things into consideration and come out with what he considered was the market value of it?

A. He would have to do that.

Q. He would have to do that?

A. There is one additional thing he would have to do, Mr. Robinson and that is this: he would inquire as to what can I buy this amount of power for and he would weigh that out and that may influence his judgment or it might bolster up his judgment as to whether this particular power project was good or not, because he would have to do that, because there would be no reason to put in a certain sum of money and not be able to compete.

Q. In other words, that would be one of the alternatives that he would consider?

A. Yes, sir.

Q. And if there were 50,000 kilowatts capacity available in this area that he could buy from the Duke Power Company or the Georgia Power Company cheaper than he could generate at Price's Island, then he would go buy that 50,000 kilowatts and not build the project?

A. He would advise his client that he had better not build, that he had better buy if and not build.

Q. But in this area there are not any blocks of that kind of power going begging, are there?

A. I don't imagine there are very many, although now-a-days it it getting along toward the point where I imagine you would not

have to have very many customers to sell a block of power that size.

Q. But the market and increase in demand in the southeast has been terrific, hasn't it?

A. Yes.

Q. And we have been able to absorb all the power we can get in this southeastern area?

A. Yes, sir.

Q. In fact, there is a shortage as the Federal Power Com-
177 mission indicates?

A. I don't know about that.

Q. Now, then, in addition to those factors the engineer would take into consideration the physical facts in connection with the site, would he not?

A. Yes, sir.

Q. And those physical facts would consist primarily of these, as I see them, that is the stream flow, and the amount of water is one of the vital factors, isn't it?

A. Certainly, if you have got a power site.

Q. But in determining whether you have got a power site, you take into consideration the stream flow and the fall in the river and the cost of construction, wouldn't you?

A. Yes, sir.

Q. Those are the three principal things?

A. Correct.

Q. And you would take into consideration also the market conditions, would you not?

A. Yes, sir.

Q. Those are the four principal things?

A. Yes.

Q. And I believe you said that at this Price's Island site there was a favorable stream flow, a large amount of water, favorable conditions?

A. Yes, sir.

Q. And there is a favorable fall condition there?

A. Yes, sir.

Q. And your cost conditions, you have just told us, you found at this dam site was a good site for a dam?

A. Yes, sir.

Q. And also there is no utilities that the government concedes would have to be moved to run your cost up? That is a big factor, isn't it?

A. Yes, sir.

Q. That is a saving factor?

A. That is a saving factor, yes.

Q. And the exhibits show that the transmission facilities would be five miles from this dam site?

A. I don't know as to that.

178 Q. Well, if it is, that is a favorable condition?

A. Right.

Q. And you are familiar with the fact that the railroad is within two and a half miles of the dam site so that the construction cost would be minimized?

A. Yes, sir.

Q. All those factors would lead you to conclude that the Twin City holdings at and above Price's Island were a favorable dam site, was a favorable undeveloped water site?

A. Yes, I would consider it, unless I found out, as I stated heretofore, that it would cost more than I could buy the power for.

Q. But for private development it looks like a good site?

A. Yes, sir.

Q. Now, your only hesitation is, I believe, is that in this area, because of the Clark Hill development, the government might be able to undersell a private company because it borrows at a lower rate and doesn't have to pay itself taxes?

A. Well, I don't think the government can produce power a bit cheaper than a private utility. The only thing is it scatters the cost over all the people.

Q. In other words, the tax payer subsidize the power that the government sells?

A. Yes, sir.

* * * * *

Q. Mr. Logan, with regard to construction cost, and assuming money at the same price, how does construction by the Army Engineers compare with construction by a private company?

A. Private companies in general do construct a project at less cost than the Federal Government.

Q. Could you reduce that to a percentage?

A. No.

* * * * *

179 Mr. H. H. BELL, sworn for the Government, testified.

DIRECT EXAMINATION.

By Mr. MILLER:

Q. Mr. Bell, I believe your initials are H. H. Bell?

A. Yes, sir.

Q. Where do you live, Mr. Bell?

A. Augusta, Georgia.

Q. What is your business?

A. Real estate.

Q. How long have you lived in Augusta, Georgia?
A. I have been in Augusta since 1900.

* * * * *

CROSS EXAMINATION.

By Mr. ROBINSON:

Q. Mr. Bell, from the time you began in business here in 1908, on this property known as being held for development of water power, is that the general reputation, so to speak, in the community?
A. Yes, sir.
Q. And various people from time to time attempted to develop the stretch of the river above Augusta?
A. Yes, sir, I did myself.
Q. When was that that you worked on it, Mr. Bell?
A. I think it was in 1917.
Q. In 1917?
A. Yes, sir. James Q. Jackson, who was known to the old timers here, I was kind-of a protege of his, and we promoted it together. We took an option on the Twin City from Mr. O'Connor, of Waterford, New York, or Watertown, New York, at the McElgin Hotel.
Q. Nothing came of that development?
A. No, sir. We couldn't get the money.
Q. That was one of the best reasons?
A. That's right.

* * * * *

Mr. ROBINSON: No further questions.

In United States District Court.

EXHIBIT No. 40

COST COMPARISONS OF EXISTING HYDRO DEVELOPMENTS

Item No.	Plant, River and Date Built		Drainage Area Sq. Mi.[1]	Head Feet.[1]	KW Cap.[2]	Total Cost[2]	Cost of Land and Land Rights[2]	Annual Energy Thousand KW Hrs. 10 Yr. Aver. (1941–50)[3]	Land Cost Per KW	Land Cost Per 1,000 Annual KW Hours	Ratio of Land Cost to Total Cost (Per Cent)
1.	Bridgewater, Catawba, N. C.	1919	377	135	20,000	$ 6,931,000	$ 1,551,800	51,198	77.50	30.20	22.4
2.	Rhodiss, Catawba, N. C.	1925	1,050	60	25,500	2,903,000	1,024,700	57,634	39.10	17.70	38.4
3.	Oxford, Catawba, N. C.	1928	4,250	90	36,000	4,567,000	1,911,000	98,197	53.00	19.50	41.6
4.	Lookout Shoals, Catawba, N. C.	1915	1,410	78	18,720	1,683,311	186,727	82,838	9.90	2.25	11.0
5.	Mt. Island, Catawba, N. C.	1923	1,800	78	60,000	5,110,000	1,169,300	104,105	19.40	11.20	22.8
6.	Catawba, Catawba, S. C.	1904	3,085	70	60,000	8,033,370	3,874,275	141,935	64.50	27.30	48.2
7.	Fishing Creek, Catawba, S. C.	1916	3,085	61	30,000	3,142,304	536,227	140,315	17.80	3.83	17.0
8.	Wateree, Catawba, S. C.	1919	4,940	78	56,000	6,279,600	1,296,600	226,988	23.10	5.70	20.6
	Sub-Total 8 Plants Above				306,220	38,649,585	11,550,329	903,210	37.70	12.75	29.9
	Average (weighted) of 8 Plants Above										
9.	Buzzards Roost, Saluda	1940	1,100	60	15,000	5,130,239	793,854	50,034	52.80	15.80	15.4
10.	Saluda, Saluda	1931	2,400	188	130,000	21,508,868	5,605,797	257,419	43.20	21.80	26.0
11.	Santee-Cooper, Santee	1942	14,709	70	132,615	65,000,000	7,898,496	606,602	59.50	13.00	12.1
	Total 11 Plants Above				583,835	$130,288,692	$25,848,476	1,817,265	44.30	14.20	19.9
	Average (weighted) of 11 plants above.										

[1] From H.D. 96, 73rd Congress, 1st Session.

[2] As reported to FPC Form No. 1 (1950, item 1, 2, 3, 5, 8; 1949 item 4, 6, 7, 10; 1952 item 9). Except cost data on Santee-Cooper from S. C. P.S.A.

[3] From FPC Form 12, (1941–1950), except item 11, 1943–50.

181 In United States District Court

EXHIBIT No. 44

Definite Project Report on Savannah River Basin, Georgia and South Carolina, Clark Hill Project, Volume I, Definite Project Report

Prepared in the office of the division engineer, South Atlantic Division, Atlanta, Georgia, dated December 1, 1945.

Approved by the Chief of Engineers Feb. 20, 1946.

E. D. File 821.2 Clark Hill Dam.

14. *Economic studies.* In view of the increase in estimated cost of the project, the determination of the ratio of estimated annual benefits to costs has been reviewed. The revised figures, based upon the initial installation of four units, show a benefit-cost ratio of 1.65. The revised estimates are as follows:

ECONOMIC STUDY

Investment:	
Estimated total project cost (1)	$42,479,000
Interest during construction	2,549,000
Total Federal Investment	45,028,000
Estimated annual benefits:	
Prime capacity 140,000 kw @ $11.25	1,575,000
Energy 677,000,000 kw @ $0.00223	1,510,000
Total power benefits	3,085,000
Navigation benefits	201,000
Flood-control benefits	32,000
Total annual benefits	3,318,000
182 *Annual charges:*	
Depreciation at 3% interest:	
Plant Equipment ..... life 35 years	174,000
Other items ..... life 50 years	283,000
Operation and maintenance (average)	199,500
Annual charges exclusive of interest on investment	656,500
Interest on investment @ 3%	1,350,800
Total annual charges	2,007,300

Ratio of annual benefits to costs:	1.65
Net annual returns from project	2,661,500
Rate of return on project investment	5.9%

(1) Exclusive of reservoir recreational facilities.

(Revised 1 May 1946.)

* * * * *

EXHIBIT No. 45

Definite Project Report on Savannah River Basin, Georgia and South Carolina, Clark Hill Project,—Volume III, Appendices II-XII

Prepared in the office of the division engineer, South Atlantic Division, Atlanta, Georgia, dated December 1, 1945.

Approved by the Chief of Engineers Feb. 20, 1946.

E. D. File 821.2 Clark Hill Dam.

* * * * *

183-185 VALUE OF CLARK HILL OUTPUT

The value of electric power to be developed by a proposed hydro-electric project may be measured by the cost of power from some alternate, equally dependable source. It appears reasonable to evaluate the Clark Hill output on the basis of the cost of equivalent amounts of capacity and energy from a modern steam-electric plant, giving due consideration to the differences in system reserves, transmission losses, and annual transmission costs.

The total value of hydro-electric power supply is composed of (1) a "capacity value", which corresponds to the fixed elements of the annual cost of power supply from alternative new steam-electric plants; and (2) an "energy value", which corresponds to the variable elements of the cost of power from such alternative plants.

In determining the value of the dependable capacity available from a proposed hydro-electric plant, as measured by the cost of capacity in steam-electric plants to be constructed in lieu of hydro-electric plants, consideration must be given to the relative reserve requirements, operating flexibility, mechanical reliability, auxiliary equipment required for station service, and other factors for the two types of plants. In contrast to the relatively simple hydro-electric plant involving heavy and rugged machinery operating at low speeds and temperatures, a modern steam-electric plant is an intricate and complicated mechanism, involving high-pressure, high-speed, and high-temperature equipment and it is subject to far more mechanical difficulties and equipment outages for maintenance

and repair. Another factor in favor of hydro-electric plants is the relatively small amount of energy required for auxiliary station use. These advantages and others less tangible are difficult to evaluate; and they are taken into account by considering that the dependable capacity of the hydro-electric plant should properly be evaluated on the basis of an alternative steam-electric plant or plants having installed capacity 10 percent greater than the dependable hydro-electric capacity.

* * * * * * *

186 In the United States Court of Appeals for the Fourth Circuit

UNITED STATES OF AMERICA, APPELLANT

versus

TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE, APPELLEES

Appeal from the United States District Court for the Western District of South Carolina, at Greenwood.

DOCKET ENTRIES

April 26, 1954, record on appeal filed and cause docketed.

April 28, 1954, appearance of David W. Robinson entered for the appellees.

April 29, 1954, appearance of John C. Williams, United States Attorney, entered for the appellant.

May 1, 1954, appearance of John F. Cotter, Attorney, Department of Justice, entered for the appellant.

May 7, 1954, appearance of Perry W. Morton, Assistant Attorney General, John F. Cotter and Edmund B. Clark, Attorneys, Department of Justice, entered for the appellant.

May 11, 1954, brief of appellant filed.

Same day, appendix to brief of appellant filed.

May 15, 1954, appendix to brief of appellees filed.

May 26, 1954, brief of appellees filed.

June 9, 1954, original exhibits certified up.

187 Minute entry of argument and submission—June 15, 1954 (omitted in printing)

188 In United States Court of Appeals for the Fourth Circuit.

No. 6805

UNITED STATES OF AMERICA, APPELLANT,

vs.

TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE, APPELLEES.

No. 6806

UNITED STATES OF AMERICA, APPELLANT,

vs.

TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE, APPELLEES.

No. 6807

UNITED STATES OF AMERICA, APPELLANT,

vs.

189 TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE, APPELLEES.

APPEALS FROM THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF SOUTH CAROLINA, AT GREENWOOD.

(Argued June 15, 1954. Decided August 30, 1954.)

Before PARKER, Chief Judge, and SOPER and DOBIE, Circuit Judges.

John F. Cotter, Attorney, Department of Justice, (Perry W. Morton, Assistant Attorney General, John C. Williams, United States Attorney, and Edmund B. Clark, Attorney, Department of Justice, on brief) for Appellant, and David W. Robinson (Robinson, Robinson & Dreher on brief) for Appellees.

OPINION—Filed August 30, 1954

PARKER, Chief Judge:

These are appeals by the United States in three condemnation cases from awards of compensation for the taking of lands in connection with the Clark Hill water power and flood control development on the Savannah River. The lands taken had been acquired in South Carolina and Georgia by the Twin City Power Company for the development of a power project at Price's Island in the

Savannah River and condemnation cases for their taking were instituted by the United States in the court below and in the United States District Court for the Southern District of Georgia.

190 Motions by the United States to strike portions of the answers which asserted the right of the owner of the lands to have their availability for the development of water power considered in connection with market value raised before the judge below the only question presented by this appeal; and his opinion in entering the order denying the motions deals with the question ably and conclusively. See *United States* v. 1532.63 *Acres of Land*, 86 F. Supp. 467.

Commissioners to value the lands were appointed by the court below acting in conjunction with the United States District Court for the Southern District of Georgia. *United States* v. 3928.09 *Acres of Land* 12 F.R.D. 127. The commissioners heard evidence on the question of compensation and filed a comprehensive report showing that the lands taken, when considered in connection with their availability for water power purposes, had a value of 267.02 per acre, and valued them accordingly. The commissioners further found that for agricultural purposes or as wild forest land, without reference to availability for development of water power, the lands would have had a value of around $37 per acre. The court below entered judgment for the landowner and its mortgagee in accordance with the valuation of the commissioners (*United States* v. 3928.09 *Acres of Land* 114 F. Supp. 719); and the United States has appealed.* No question is raised on the appeal except with respect to considering the availability of the lands for water power purposes on the question of valuation, the contention of the United States being that "the value of land as a potential power site on a navigable stream is not an element of just compensation under the Fifth Amendment". We agree with the judge below that this contention

191 cannot be sustained.

There is practically no dispute as to the facts. They are thus stated by the District Judge in his order denying a petition for rehearing:

> "The properties of the two Twin City corporations taken by the United States in these actions and in those pending in the Southern District of Georgia, extend some eleven miles along both sides of the Savannah River from Price's Island to Chamberlain's Ferry embracing some forty-seven hundred acres. Along this distance the Savannah River has a sixty-foot

* The United States has filed notices of appeal to the Court of Appeals of the Fifth Circuit from like judgments entered in the United States District Court for the Southern District of Georgia.

fall and a stream flow exceeding that at most of the hydro developments in Georgia and the Carolinas. At Price's Island on the Twin City properties there was an excellent dam site between spurs with sound foundation rock and ideal clay available for construction purposes.

"Twin City's ownership of a strip of land for a railroad siding to the C. & W. C. Railroad some two miles away, the proximity of nearby transmission facilities, the ownership of a reservoir area free of houses, bridges, railroads and highways were factors materially minimizing construction costs. At the time of taking conditions were favorable for the marketing of power.

"Dams at the Price Island site were economically feasible for use in connection with a sixty, seventy, eighty, ninety or one hundred foot head. Twin City owned practically all of the land needed for the sixty-foot development and therefore an integrated site for such a project. These properties embraced one of the best undeveloped hydro sites in the eastern part of the United States. This land was also useful for hydro-electric purposes in conjunction with up-stream and down-stream properties owned by others. The value of the Twin City lands would have been increased by up-stream developments
192 at Calhoun Falls and at Hartwell which were under consideration at the time of taking.

"These properties were under constant study for hydro-electric development from the time of the first acquisition for this purpose by Twin City in 1901. It was authorized to build dams in the Savannah River under six Acts of Congress enacted between 1901 and 1919. The Secretary of War and the Chief of Engineers approved its plans, the Federal Power Commission tendered Twin City a preliminary permit in 1926 for a development at Price's Island. From 1928 to 1932, the Savannah River Electric Company held a Federal Power license to build at Clark Hill and to incorporate the Twin City properties into its development. From time to time other private interests were interested in acquiring these properties for river development. During the twenty-year period immediately preceding these condemnation proceedings the Army Engineers had this stretch of the Savannah under constant study in connection with both private and public hydro electric development. Finally in 1944, Congress decided that the project should be built by the United States and the Federal Power Commission therefore refused to issue a license for its construction to the private applicant, the Savannah River Electric Company. *Savannah River Electric v. Federal Power Com.* 164 F. 2d 408.

"These facts are largely undisputed. The great weight of

the evidence supports the finding that this use for power purposes was so probable at the time of taking as to affect the market value of the property. The Government, having been attracted to the acquisition of this property because of its suitability for water power development, can hardly deny that the power potential actually did affect its value in the
193 market.

"The amount of the award is supported by the preponderance of the evidence. Three competent and well qualified hydraulic engineers with large experience in this field, after fully considering all of the pertinent factors, testified that, in their respective opinions a prudent, competent and well-informed buyer, willing but not compelled to buy, trading with an equally well-informed, competent and willing seller would have paid substantially more than the award for these properties. The commissioners, evaluating all of the evidence, found that a figure, less than these given in these opinions, was just compensation and the two courts confirmed the aggregate of the awards in the companion decrees of August 26, 1953. On reconsideration I am convinced of the correctness of the findings in the decree."

It is provided by the Fifth Amendment to the Constitution of the United States that private property shall not be taken for public use "without just compensation"; and in arriving at just compensation all elements entering into the value of the property taken must be given consideration. The most profitable use of the land here being taken is use in the development of water power; and there is no basis in law or in reason why this element of value should be ignored. The land was acquired by the owner for that purpose; and it is now being acquired by the United States for that purpose. As was well said by the District Judge in his opinion (114 F. Supp. at 723):

"All of the properties of Twin City and the entire eleven mile stretch of the Savannah River along which this land lay have been incorporated by the United States in its Clark Hill
194 hydro development for water power purposes as its best and most valuable use. The testimony from both sides shows that during the entire period from 1901 to the date of taking Congress and all of the interested Federal agencies, without exception or dissent, considered that these properties of Twin City should be developed for water power, either by private interests or by the United States and either separately or in conjunction with other property."

The rule applicable in such a situation is that stated in *Olson v. United States* 292 U.S. 246, 255, 256, as follows:

> "The highest and most profitable use for which the property is adaptable and needed or likely to be needed in the reasonably near future is to be considered, not necessarily as the measure of value, but to the full extent that the prospect of demand for such use affects the market value while the property is privately held. *Boom Co. v. Patterson* 98 U.S. 403, 408; *Clark's Ferry Bridge Co. v. Public Service Comm'n* 291 U.S. 227; 2 Lewis, Eminent Domain 3d ed. sec. 707 p. 1233; 1 Nichols, Eminent Domain 2d ed. sec. 220 p. 671. The fact that the most profitable use of a parcel can be made only in combination with other lands does not necessarily exclude that use from consideration if the possibility of combination is reasonably sufficient to affect market value. Nor does the fact that it may be or is being acquired by eminent domain negative consideration of availability for use in the public service. *New York v. Sage* 239 U.S. 57, 61. It is common knowledge that public service corporations and others having that power frequently are actual or potential competitors not only for tracts held in single ownership but also for rights of way, sites and other areas requiring the union of numerous parcels held
195 by different owners. And, to the extent that probable demand by prospective purchasers or condemnors affect market value, it is to be taken into account. *Boom Co. v. Patterson*, ubi supra."

See also *Boom Co. v. Patterson*, 98 U.S. 403, 407-408; *City of New York v. Sage*, 239 U.S. 57; *McCandless v. United States*, 298 U.S. 342; *United States v. Miller*, 317 U.S. 369; *Grand River Dam v. Grand-Hydro*, 335 U.S. 359; *United States ex rel. T.V.A. v. Powelson*, 319 U.S. 266, 275. When the case last cited was before this court on remand from the Supreme Court, we went carefully into the rule applicable in a case of this sort and laid down what we understand to be the proper rule in the following language (138 F. 2d at 345-6):

> "Certainly one who has embarked upon the enterprise of a great water power development, has purchased and brought together thousands of acres of land for the purpose and spent hundreds of thousands of dollars in the enterprise, is entitled to have his holdings valued on some other basis than that of numerous small separated tracts of wild mountain land, if it be found, irrespective of the possession of the power of eminent domain by the landowner, that there is a reasonable probability of the lands in question being combined with other tracts into

a power project in the reasonably near future. Market value is nothing but a hypothetical concept based upon what, in the opinion of those who know, a willing buyer would have to pay a willing seller of property in order to purchase it. The question here is, not what wild mountain land was selling for in the community, but what would the portion of land owned
196 by Powelson and available for this water power development have been reasonably worth on the market when sold by one who was willing but not compelled to sell and bought by one who was willing but not compelled to buy."

And we do not think that, because the availability of the land for water power purposes arises from the fact that it is appurtenant to a navigable stream, such availability should be ignored in appraising value for purposes of condemnation. What is being taken is, not the flow of the stream of the bed of the stream; but adjoining land which is being taken to form the basin of a reservoir; and, if its present availability for such use adds to its market value, there is no reason why this must not be taken into consideration in determining the compensation to be paid the owner, if just compensation is to be accorded him as required by the Constitution. We recognize, of course, that under the power to regulate interstate commerce the government has a servitude with respect to the bed of a navigable stream and the flow of water therein and may remove any obstruction to navigation without being liable in damages therefor (*United States* v. *Chicago, M. St. P. & P. R. Co.*, 312 U. S. 592); but that is not what the government is doing here. It is taking, not the bed of the stream, but lands adjacent to the stream and is taking them, not for purposes of navigation, but for the primary purposes of flood control and the development of water power.* Cf. *United States* v. *Gerlach Live Stock Co.*, 339 U. S. 725, 739-742.

197 It is well settled that the "right of the United States in the navigable waters within the several states is limited to the control thereof for purposes of navigation", *Seattle* v. *Oregon & W. R. Co.*, 255 U. S. 56, 63); and that, as to fast land, "The absolute ownership and right of private property in such land is not varied by the fact that it borders on a navigable stream": *Pumpelly* v. *Green Bay Company*, 13 Wall. 166, 182. Consequently, even where improvement of navigation is the purpose, any taking outside the bed of the stream of adjacent "fast" lands must be compensated

*That the purposes of the taking was not improvement of navigation but flood control and water power development see statement of facts by this court in the Clark Hill case, *Savannah River Elec. Co.* v. *Federal Power Commission*, 4 Cir., 164 F. 2d 408.

for as in any other taking of private property. *United States* v. *Chandler-Dunbar Company*, 229 U. S. 53, 60, 65. This would seem to be elementary since the limitations of the Fifth Amendment apply to the government when exercising the commerce power as well as other powers. Certainly, it is absurd to contend that, because the government is given control of navigation on the river and may exercise the servitude incident to such control, it may build a dam for water power purposes and take lands of private owners to form a basin for the reservoir thus created without paying the reasonable value of the land so taken. As said by Mr. Justice Brewer in *Monongahela Navigation Co.* v. *United States*, 148 U. S. 312, 337, 338:

> "It would seem strange that if by asserting its right to take the property, the government could strip it largely of its value * * *. In other words, by the contention this element of value exists before and after the taking, and disappears only during the very moment and process of taking. Surely, reasoning which leads to such a result must have some vice, at least the vice of injustice."

Very much in point is the case of *United States* v. *Kansas*
198 *City Insurance Company*, 339 U. S. 799, wherein the construction of a dam on the Mississippi River, purely in aid of navigation, caused the raising of the river continuously to high water level and, as the result of underflowing caused thereby, destroyed the value of adjacent lands for agricultural purposes. The court held that the United States in the exercise of the power to regulate commerce could not take lands beyond the bed of the stream without liability therefor, and that the underflowing of the riparian lands involved constituted a taking for which compensation must be paid. In distinguishing the case of *United States* v. *Willow River Power Co.*, 324 U. S. 499 and other cases holding that there was no liability for exercise of power relating solely to the bed of the stream, the court, speaking through Justice Burton, said (p. 808):

> "It is not the broad constitutional power to regulate commerce, but rather the servitude derived from that power and narrower in scope, that frees the government from liability in these cases. When the government exercises this servitude, it is exercising its paramount power in the interest of navigation, rather than taking the private property of anyone. The owner's use of property riparian to a navigable stream long has been limited by the right of the public to use the stream in the interest of navigation. See Gould on Waters, c. IV, secs. 86-90 (1883); 1 Farnham, Waters and Water Rights, c. III, sec. 29 (1904). This has applied to the stream and to the land submerged by the stream. There thus has been ample notice over

the years that such property is subject to a dominant public interest. This right of the public has crystallized in terms of a servitude over the bed of the stream. The relevance of the high-water level of the navigable stream is that it
199 marks its bed. Accordingly, it is consistent with the history and reason of the rule to deny compensation, where the claimant's private title is burdened with this servitude *but to award compensation where his title is not so burdened.*" (Italics supplied).

The court appended the following note to the last sentence of the above quotation:

"This is clearly illustrated in *United States* v. *Chicago, M., St. P. & P. R. Co., supra.* The United States raised the level of the navigable river above its ordinary high-water mark. This Court then declined to allow compensation for the damage caused to the segment of the respondent's embankment which concededly was located on land within the bed of the river. On the other hand, the lower court awarded compensation for the damage done to such segments of the embankment as concededly were on land above the bed of the river. No appeal was taken from that award. Finally, as to three other segments with regard to which there was a disagreement as to whether or not they were on land within the bed of the river, this Court remanded the case to the District Court to resolve that factual issue."

It is argued that the adjacent owner does not own the water power value of the current of the river. This is true; but it is also true that the government does not own or have any servitude over the adjacent fast lands. A power development can no more be constructed without the one than without the other; and just as the adjacent owner may not take the current of the stream for his own uses from the government representing the public, so the government may not take his lands from him without making
200 just compensation, which, as we have seen, includes every element which would properly be considered in determining market value. Value with respect to the water power of a river does not reside solely in the flow of the stream. Such flow would not create water power without the damming of the stream and the creation of a reservoir; and the reservoir could not be created without the taking of adjacent lands as a basin for it. It is because of the availability of adjacent lands for this purpose that they acquire value that they would not otherwise have; and such value may no more be ignored in fixing just compensation than may any other element entering into the determination of what a willing

purchaser would have to pay a willing seller in order to acquire the lands.

There is nothing to the contrary in *United States* v. *Chandler-Dunbar Co.*, 229 U. S. 53; but that decision, we think, when properly interpreted supports our conclusion. It was there held that the United States could not be required to pay compensation for requiring the removal from navigable waters of a dam which was an obstruction to navigation nor for resulting decrease in the value of a factory site on fast lands adjacent thereto; but it was held also that in valuing these fast lands account might be taken of their availability for lock and canal purposes. In overruling the exception of the government to an award of damages based upon availability for such purposes the court said (at pp. 76-77):

> "The exception taken to the inclusion as an element of value of the availability of these parcels of land for lock and canal purposes must be overruled. That this land had a prospective value for the purpose of constructing a canal and lock parallel with those in use had passed beyond the region of the
> 201 purely conjectural or speculative. That one or more additional parallel canals and locks would be needed to meet the increasing demands of lake traffic was an immediate probability. This land was the only land available for the purpose. It included all the land between the canals in use and the bank of the river. Although it is not proper to estimate land condemned for public purposes by the public necessities or its worth to the public for such purpose, it is proper to consider the fact that the property is so situated that it will probably be desired and available for such a purpose. Lewis on Eminent Domain, sec. 707; *Boom Co.* v. *Patterson*, 98 U. S. 403, 408; * * * ".

The case of *United States* v. *Willow River Power Company*, 324 U. S. 499, which is relied on by the United States, involved, not the taking of shore land for power purposes, but the reduction in the generating capacity of a plant resulting from an authorized navigation improvement. See *United States* v. *Kansas City Ins. Co.*, 339 U. S. 799, 805-808. In *Continental Land Co.* v. *United States*, 9 Cir. 88 F. 2d 104 and *Washington Water Power Co.* v. *United States*, 9 Cir. 135 F. 2d 541, it appeared that there was no reasonable probability of the utilization of the lands for water power by private capital in the reasonably near future. Precisely the opposite is the case here, where the evidence shows that, but for the government's undertaking the construction at Clark Hill, the lands here would have been acquired by the Savannah River Electric Company for power

purposes.* In so far as the two cases just cited may be construed as holding that, because a riparian owner of lands on a navigable stream has no property right in the bed or flow of the stream against the United States, he may not recover for the
202 power site value of the lands, even though there is a present probability of their use for power purposes which has added to their market value, we think that this is contrary to what is clearly held by the Supreme Court in cases heretofore cited.

We are not impressed by the argument that availability for water power development may not be considered in awarding compensation because under the Federal Water Power Act a development can be constructed in the river only under permit from the Federal Power Commission. As the Supreme Court pointed out in the recent case of *Federal Power Commission* v. *Niagara Mohawk Power Corp.*, 347 U. S. 239, private proprietary rights existing under state law have not been abolished by the Federal Water Power Act. In that case the court said:

> "The Act treats usufructuary water rights like other property rights. While leaving the way open for the exercise of the federal servitude and of federal rights of purchase or condemnation, there is no purpose expressed to seize, abolish or eliminate water rights without compensation merely by force of the Act itself."

In *Ford & Son* v. *Little Falls Company*, 280 U. S. 369, 377, 378, it was held that the act did not preclude the recovery of damages for the impairment of a water power as the result of the backing of water by a down stream development which the Federal Power Commission had licensed under the act. The court, speaking through Mr. Justice (later Chief Justice) Stone, said:

> "Whether the Commission acted within or without its jurisdiction in granting the license, and even though the rights which the respondents here assert be deemed subordinate to the power of the national government to control navigation,
263 the present legislation does not purport to authorize a license of the Commission to impair such rights recognized by state law without compensation. Even though not immune from such destruction they are, nevertheless, an appropriate subject for legislative protection. See *United States* v. *Realty Co.*, 163 U. S. 427; *Guthrie National Bank* v. *Guthrie*, 173 U. S. 528, 535; *Joslin Co.* v. *Providence*, 262 U. S. 668, 675.

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*See *Savannah River Electric Co.* v. *Federal Power Commission*, *supra*, 4 Cir. 164 F. 2d 408.

676; *Otis* v. *Judlow Co.* 201 U. S. 140, 152; *Oswego & Syracuse R. Co.* v. *State*, 226 N. Y. 351, 356. Especially is there reason for such protection where, as here, their sacrifice may be involved in the grant of a valuable privilege to a licensee. We think that the provisions of the Act are quite sufficient in themselves to save respondents from any such appropriation of their water power."

See also *Grand River Dam* v. *Grand-Hydro*, *supra*, 335 U. S. 359, 372.

Some confusion in thinking seems to have arisen because the building of the dam at Clark Hill was unquestionably within the power of the government and necessarily precludes the building of a dam at Price's Island. The answer is that the lands of plaintiff have value for water power purposes because they furnish a portion of the basin of a reservoir needed for the development of water power, and that this is true whether the dam creating the reservoir be located at Price's Island or at Clark Hill. There is nothing to show and no reason to think that their market value is any less because they can be used in connection with the development at Clark Hill than if they had been available for use only in connection with a development at Price's Island. There can be no question but that, if the Savannah River Electric Company had been allowed to construct the Clark Hill project, it would have
204-205 had to compensate Twin City for the Price's Island property on the basis of the manifest value of that property for water power purpose. When the government takes over the project, there is no reason in law, in justice or in common honesty why it should not pay compensation on the same basis. As said by Mr. Justice Brewer in the passage above quoted from the Monongahela Navigation case, reasoning which leads to any other result "must have some vice, at least the vice of injustice"; and injustice in determining compensation to be paid for property taken violates the requirement of the Fifth Amendment that the compensation be just.

Affirmed.

206 In United States Court of Appeals for the Fourth Circuit

No. 6805

UNITED STATES OF AMERICA, APPELLANT

vs.

TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE, APPELLEES

Appeal from the United States District Court for the Western District of South Carolina.

JUDGMENT—

Filed and Entered August 30, 1954

This cause came on to be heard on the record from the United States District Court for the Western District of South Carolina, and was argued by counsel.

On consideration whereof, It is now here ordered and adjudged by this Court that the judgment of the said District Court appealed from, in this cause, be, and the same is hereby, affirmed.

JOHN J. PARKER,
Chief Judge, Fourth Circuit.
MORRIS A. SOPER,
United States Circuit Judge,
ARMISTEAD M. DOBIE,
United States Circuit Judge.

September 30, 1954, mandate issued and transmitted to Clerk of the United States District Court at Greenville, South Carolina, in due form.

Same day, record on appeal and original exhibits returned to Clerk of the United States District Court at Greenville, South Carolina.

November 20, 1954, record on appeal and original exhibits received from Clerk of the District Court.

207 In the United States Court of Appeals for the Fourth Circuit

No. 6806

UNITED STATES OF AMERICA, APPELLANT

vs.

TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE, APPELLEES

Appeal from the United States District Court for the Western District of South Carolina, at Greenwood.

DOCKET ENTRIES

April 26, 1954, record on appeal filed and cause docketed.

April 28, 1954, appearance of David W. Robinson entered for the appellees.

April 29, 1954, appearance of John C. Williams, United States Attorney, entered for the appellant.

May 1, 1954, appearance of John F. Cotter, Attorney, Department of Justice, entered for the appellant.

May 7, 1954, appearance of Perry W. Morton, Assistant Attorney General, John F. Cotter and Edmund B. Clark, Attorneys, Department of Justice, entered for the appellant.

May 11, 1954, brief of appellant filed.

Same day, appendix to brief of appellant filed.

May 15, 1954, appendix to brief of appellees filed.

May 26, 1954, brief of appellees filed.

June 9, 1954, original exhibits certified up.

208 MINUTE ENTRY OF ARGUMENT AND SUBMISSION—June 15, 1954

(Omitted in printing)

In the United States Court of Appeals for the Fourth Circuit

No. 6806

UNITED STATES OF AMERICA, APPELLANT

vs.

TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE, APPELLEES

Appeal from the United States District Court for the Western District of South Carolina.

JUDGMENT—Filed and Entered August 30, 1954.

This cause came on to be heard on the record from the United States District Court for the Western District of South Carolina, and was argued by counsel.

On consideration whereof, it is now here ordered and adjudged by this Court that the judgment of the said District Court appealed from, in this cause, be, and the same is hereby, affirmed.

JOHN J. PARKER,
Chief Judge, Fourth Circuit.
MORRIS A. SOPER,
United States Circuit Judge.
ARMISTEAD M. DOBIE,
United States Circuit Judge.

209 September 30, 1954; mandate issued and transmitted to Clerk of the United States District Court at Greenville, South Carolina, in due form.

Same day, record on appeal and original exhibits returned to Clerk of the United States District Court at Greenville, South Carolina.

November 20, 1954, record on appeal and original exhibits received from Clerk of the District Court.

210 In the United States Court of Appeals for the Fourth Circuit

No. 6807

UNITED STATES OF AMERICA, APPELLANT

vs.

TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE, APPELLEES

Appeal from the United States District Court for the Western District of South Carolina, at Greenwood.

DOCKET ENTRIES

April 26, 1954, record on appeal filed and cause docketed.

April 28, 1954, appearance of David W. Robinson entered for the appellees.

April 29, 1954, appearance of John C. Williams, United States Attorney, entered for the appellant.

May 4, 1954, appearance of John F. Cotter, Attorney, Department of Justice, entered for the appellant.

May 7, 1954, appearance of Perry W. Morton, Assistant Attorney General, John F. Cotter and Edmund B. Clark, Attorneys, Department of Justice, entered for the appellant.

May 11, 1954, brief of appellant filed.

Same day, appendix to brief of appellant filed.

May 15, 1954, appendix to brief of appellees filed.

May 26, 1954, brief of appellees filed.

June 9, 1954, original exhibits certified up.

211 MINUTE ENTRY OF ARGUMENT AND SUBMISSION—

(Omitted in printing)

In the United States Court of Appeals for the Fourth Circuit

No. 6807

UNITED STATES OF AMERICA, APPELLANT

vs.

TWIN CITY POWER COMPANY AND WILLIAM P. DAUCHY, ITS MORTGAGEE, APPELLEES

Appeal from the United States District Court for the Western District of South Carolina

JUDGMENT—Filed and Entered August 30, 1954

This cause came on to be heard on the record from the United States District Court for the Western District of South Carolina, and was argued by counsel.

On consideration whereof, it is now here ordered and adjudged by this Court that the judgment of the said District Court appealed from, in this cause, be, and the same is hereby affirmed.

JOHN J. PARKER,
Chief Judge, Fourth Circuit.
MORRIS A. SOPER,
United States Circuit Judge.
ARMISTEAD M. DOBIE,
United States Circuit Judge.

212 September 30, 1954, mandate issued and transmitted to Clerk of the United States District Court at Greenville, South Carolina, in due form.

Same day, record on appeal and original exhibits returned to Clerk of the United States District Court at Greenville, South Carolina.

November 20, 1954, record on appeal and original exhibits received from Clerk of the District Court.

213 STIPULATION AS TO RECORD (Omitted in printing)

214 ORDER AUTHORIZING CLERK TO USE ORIGINAL TRANSCRIPTS OF RECORDS (Omitted in printing)

215 Clerk's Certificate to foregoing transcript omitted in printing.

216 SUPREME COURT OF THE UNITED STATES, OCTOBER TERM 1954

No. 463

UNITED STATES OF AMERICA, PETITIONER

vs.

TWIN CITY POWER COMPANY AND WILLIAM P. DAUGHY, ITS MORTGAGEE

ORDER ALLOWING CERTIORARI.—Filed January 10, 1955

The petition herein for a writ of certiorari to the United States Circuit Court of Appeals for the Fourth Circuit is granted.

And it is further ordered that the duly certified copy of the transcript of the proceedings below which accompanied the petition shall be treated as though filed in response to such a writ.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1955